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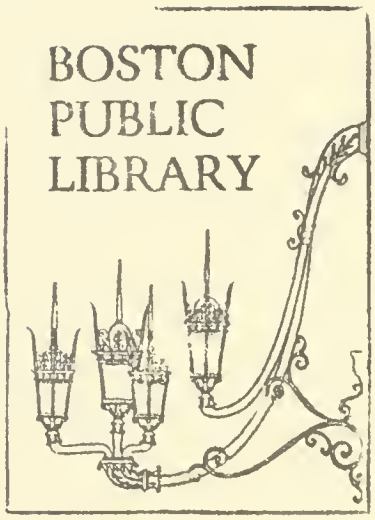
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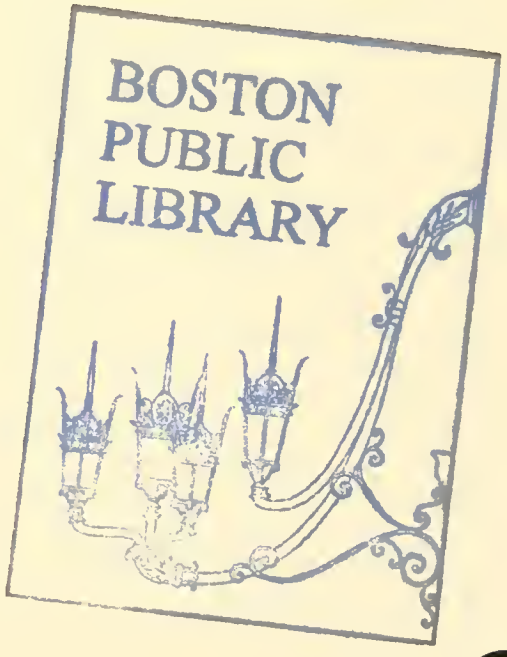
MARKETPLACE CENTER

FINAL ENVIRONMENTAL IMPACT REPORT



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Appendix V

Wind Study Contract

Morrison Hershfield Limited
Consulting Engineers

RECEIVED
APR 07 1982

April 6, 1983

Mr. James F. Sullivan
Marketplace Center Associates
189 State Street
Boston, MA 02109
U.S.A.

Re: Marketplace Center, Boston

Dear Mr. Sullivan:

Further to our telephone discussion with Chung Lee of WZMH Group Inc. on March 31, 1983, we are writing to give our recommendations on the effect of the recent five floor height reduction of the above project on the results of our wind tunnel studies. We have now received updated drawings dated March 24, 1983.

Pedestrian Level Winds

The general effect of the height reduction would be to slightly lessen the impact of the project on pedestrian level winds. However, we would judge that the effect would not be sufficient to eliminate the need for the remedial measures that were developed in the model testing. Therefore, we recommend no changes to the remedial measures described in our Report 4821991.

Wind Loading

The height reduction would tend to reduce the wind pressures and suctions on the exterior surfaces of the tower, making the design information provided in our Report 4821401 slightly conservative. We estimate the reduction to be no more than about 10%. Report 4821401 showed that the wind loading on nearby structures was not adversely affected to any large extent

by the Marketplace Center in its earlier form. The height reduction would merely lessen its impact further in this regard.

Should you wish to discuss these matters further please feel free to contact us at your convenience.

Yours very truly,

MORRISON HERSHFIELD LIMITED

P.A. Irwin, Ph.D., P.Eng.
Director of Technical Services

PAI/ie
482-199

**Morrison, Hershfield,
Theakston & Rowen, Limited**

Consulting Engineers

Edmonton
Guelph

650 Woodlawn Road West
Guelph, Ontario
N1K 1B8
Telephone (519) 823-1311
Cable Morheak
Telex 069-56639

WIND PRESSURE STUDY

OF

MARKETPLACE CENTER

BOSTON, MASSACHUSETTS

Submitted to:

THE WEBB ZERAFA MENKES HOUSDEN GROUP

ARCHITECTS AND PLANNERS

BOSTON, MASSACHUSETTS

August 16, 1982

Report 4821401

1. INTRODUCTION

This report describes wind tunnel tests undertaken to determine exterior wind pressures and suctions for cladding design, the effect on neighbouring buildings, and the wind induced forces and moments on the structural frame of Marketplace Center, Boston.

Tests were performed in the boundary layer wind tunnel of our Guelph laboratory using a 1:500 scale model of the buildings and surrounding terrain. The drawings used for the construction of the model are listed in Appendix A. Figure 1 shows a photograph of the test model, and Figure 2 shows an orientation plan of the study area.

2. CLADDING WIND LOADS

The model of Marketplace Center was instrumented with pressure taps as shown in Figures 3 through 10. Pressure transducers were used to measure mean and peak wind loads at each tap for the full scale equivalent of approximately 1 hour for each of 36 wind directions. Wind load coefficients were then calculated for each direction as follows:

Mean Wind Load Coefficient

$$C_{\bar{p}} = \frac{\bar{p}}{q_{ref}}$$

where $\bar{p}$ is the hourly mean wind load (psf) and q_{ref} is a reference wind pressure (psf) based on wind tunnel speed at simulated gradient height above the test site (for details refer to Appendix B).

Peak Suction Coefficient

$$C_{p}^{v} = \left(\frac{\overset{v}{p}}{q}\right)_{ref}$$

where C_{p}^{v} is the suction coefficient based on the extreme suction, $\overset{v}{p}$ (psf) measured at a tap location.

Peak Pressure Coefficient

$$C_{p}^{\wedge} = \left(\frac{\hat{p}}{q}\right)_{ref}$$

where $C_{p}^{\wedge}$ is the pressure coefficient based on the extreme positive pressure, $\hat{p}$ (psf) measured at a tap location.

RMS Pressure Coefficient

$$C_{p}' = \left(\frac{p'}{q}\right)_{ref}$$

where C_{p}' is the pressure coefficient based on the root mean square pressure p' (psf) of pressure fluctuations at a tap location.

The method used to establish local peak pressures and suctions for cladding design of the full scale structure from wind tunnel results is described in Appendix C. Essentially, the method involves the introduction of long term wind statistics for Boston derived from a two part analysis. First, 36 years of wind data accumulated at Logan International Airport were analyzed to determine the probabilities of exceeding various wind speeds. This was done for each of the 36 wind directions for which pressure coefficients were measured in the wind tunnel. Second, since these data do not adequately represent hurricanes, a Monte Carlo computer simulation of hurricanes was used to determine the

probabilities of exceeding various wind speeds during hurricanes. The two sets of results were combined to obtain the probabilities of exceeding various wind speeds during both hurricanes and non-hurricane storms.

This information was combined with the measured peak wind load coefficients to provide peak pressures and suctions on the exterior surfaces of the buildings for various levels of risk. The level of risk for a given pressure or suction is expressed as a return period, which is the average time between storms in which that pressure or suction is exceeded (eg. 100 years).

Prior to presenting the test results several points should be emphasized concerning the interpretation of the wind loads. The results as presented have been compiled using current technology and scientific methods. However, full scale structures may experience very localized peak pressures and suctions in excess of those recorded in wind tunnel tests. In addition, since wind loads must necessarily be described in statistical terms, there is a small but finite probability that the loads recommended in this report will be exceeded during the life of the structure. It should be noted that no safety factors have been applied to the results, since these are best introduced by the curtainwall designer based on his knowledge of the glazing and its supports.

Each occurrence of a peak pressure or suction measured on the model has a full scale duration in the range of one to five seconds. Since in the course of a storm the peak pressure or suction may occur a number of times, the total duration of the wind load at the peak level during the storm will be greater than one to five seconds. It is therefore recommended that for glazing design the effective duration of the peak pressures and suctions given in this report be taken as 60 seconds. In some high suction areas this may result in localized glazing wind loads being conservative by 10% to 20%.

Since wind tunnel tests provide estimates of the pressures and suctions experienced on the outside surfaces of a structure relative to the ambient atmospheric pressure, it may be necessary to modify these values to account for the variations in internal building pressure. The relevant code and possibly the mechanical engineer for the structure may be consulted for this information.

An effect which may require consideration is the excitation or resonance effect of glass and lightweight panels which could induce large center point deflections leading to a higher risk of failure. It is suggested that the curtain wall designer assess the likelihood of this effect and where necessary introduce a safety factor into the final results.

When interpreting the pressures and suctions given in this report it is essential to recall that they pertain to the arrangements of structures used in the model simulation and that the erection or demolition of a neighbouring structure may significantly alter the pressure field on the structure under study.

Test Results

The mean, peak and root mean square wind load coefficients for Marketplace Center were calculated as described previously, and are shown in Appendix D. For each pressure tap and wind direction, Mean, Max, Min and RMS designate Mean Wind Load, Peak Pressure, Peak Suction and Root Mean Square coefficients respectively. Wind directions are indicated in degrees clockwise from true North. The peak values were used to determine the peak suctions and pressures at each tap location for various return periods. The results are shown in Table 1. Wind load contours were obtained by plotting the 100 year return period peak pressures and suctions from the table at each pressure tap location. These contours are shown in Figures 11 through 26.

The highest 100 year suction on the study building is 40 psf at tap B6, located at the upper northwest portion of the building. This location tends to experience high suctions when exposed to northerly winds because of flow separation at the northwest corner. In general, high 100 year suctions were found at the upper corners of the building.

The highest 100 year pressure is 25 psf at taps B2 and B18, located high on the eastern face of the building and is due to the relatively high frequency of occurrence of strong easterly winds.

Recommendations for Cladding Design

For purposes of cladding design it is recommended that the design wind loads on Marketplace Center conform to the upper limits of the contour ranges shown in Figures 11 through 26. For example, in a region marked 21 - 30 psf in suction, the recommended design suction would be 30 psf.

3. EFFECT ON NEARBY STRUCTURES

Models of the buildings adjacent to the study site (shown in Figure 2) were fitted with pressure taps to assess the effect of Marketplace Center on these structures. The tap locations are shown in Figures 27 through 32. Mean and peak pressure coefficients were measured at these tap locations in the manner described in the previous section, both with existing conditions and with the model of Marketplace Center in place. The wind load coefficients are given in Appendices E and F, and the peak wind loads for various return periods are listed in Tables 2 and 3.

The highest 100 year suction on the adjacent buildings with existing conditions is 48 psf at tap L12 on the U.S. Customs House, while the highest suction with the study

building in place is 42 psf at the same tap location. The reduction of the peak suction at this location is due to the sheltering by the study building. The highest 100 year pressure on the adjacent buildings with existing conditions is 23 psf at tap L1 on the U.S. Customs House, while the highest pressure with the study building in place is 26 psf, also at tap L1. The increase in pressure is due to deflection of flow by the study building. Generally, increases in local wind loads due to the Marketplace Center were not large.

4. STRUCTURAL WIND LOADS

This section of the report describes the analysis of the wind induced forces and moments on the structural frame of the proposed Marketplace Center. Figure 21 shows the coordinate system used for the forces and moments. The structural loads given in this report are for the 100 year return period winds.

For each wind direction tested in the model study, the local force, F_l, acting on the portion of the wall surrounding each pressure tap was determined as follows:

$$F_l = C_{\bar{p}} C_g A q$$

where:

- $C_{\bar{p}}$ is mean wind load coefficient at the tap location as determined in the cladding wind load study;
- C_g is the gust factor; a gust factor of 2.55 was used from 150° to 40°, where the upwind exposure consisted of tall buildings, and 1.97 was used from 50° to 140°, where the exposure consisted mainly of low buildings and water;
- A is the area of the wall surface assigned to the pressure tap;
- q is the reference wind pressure at gradient height; the value of q was set equal to the 100 year return period

gradient wind pressure given in Appendix C for the most frequent direction of strong winds, and was reduced to a lower value for other directions, as indicated in the following table:

Wind Direction	Reduction Factor
20° - 100°	1.000
110° - 10°	0.7225

These factors were deduced by inspection of the probability plot given in Appendix C.

The local force was resolved into x and y components, at each of seven pressure tap levels. The forces were then linearly interpolated to estimate forces at each floor level. These forces were summed from the top of the building down to provide total shears and moments at each floor. This procedure was repeated for each wind direction. The results are presented in Appendix G using the following symbols:

WD - wind direction in degrees clockwise from true North;
FL - floor level;
Z - height of the given floor above ground (ft.);
F_x - net force per floor in the x direction at the given floor level;
F_y - net force per floor in the y direction at the given floor level;
F_r - magnitude of the vector sum of F_x and F_y: $(F_y^2 + F_y^2)^{\frac{1}{2}}$;
M_z - torsional moment per floor at the given floor level;
FT_x - net shear force in the x direction due to forces above the given floor level;
FT_y - net shear force in the y direction due to forces above the given floor level;
FT_r - magnitude of the vector sum of FT_x and FT_y;

MT_x - overturning moment about the x axis at the given floor level;

MT_y - overturning moment about the y axis at the given floor level;

MT_z - net torsional moment on the tower above the given floor level.

All forces are given in pounds, and the moments are given in pound-feet.

The net forces and moments at the base of the building are summarized at the end of Appendix G. Plots of the base forces and moments are shown in Figures 34 through 36. The largest 100 year base shear force, FT_x, base overturning moment, MT_y, and torsional moment, MT_z, occur for northwesterly winds.

The base shear forces and overturning moments given here are relatively small due to the building shape. The low ratio of height to width, the stepping back of the corners and the rectangular plan of the building result in less drag than experienced by a taller, square building.

Should you have any questions regarding these results, we would be pleased to discuss them with you at your convenience.

MORRISON, HERSHFIELD, THEAKSTON AND ROWAN, LIMITED

P.A. Irwin, Ph.D., P.Eng. _____

M.A. Wawzonek, P.Eng. _____

TABLE 1- 1

MARKETPLACE CENTER - BOSTON

MAXIMUM WIND LOADS (PSF) FOR SELECTED RETURN PERIODS

TAP	25 YEARS PRESSURE	25 YEARS SUCTION	50 YEARS PRESSURE	50 YEARS SUCTION	100 YEARS PRESSURE	100 YEARS SUCTION
A 1	11	-13	12	-16	13	-19
A 2	11	-16	12	-17	14	-21
A 3	12	-17	15	-20	16	-21
A 4	11	-22	13	-25	15	-28
A 5	11	-20	12	-21	14	-24
A 6	11	-17	11	-19	13	-21
A 7	14	-16	15	-18	16	-22
A 8	11	-18	12	-20	15	-23
A 9	11	-11	11	-13	13	-16
A 10	5	-16	6	-18	7	-21
A 11	5	-18	6	-21	7	-24
A 12	10	-13	11	-16	12	-18
A 13	11	-15	13	-16	15	-18
A 14	11	-16	12	-19	15	-21
A 15	7	-16	9	-19	11	-21
A 16	19	-15	21	-17	22	-21
A 17	15	-15	16	-17	19	-19
A 18	16	-10	19	-12	20	-14
A 19	15	-12	16	-14	17	-17
A 20	17	-17	20	-19	21	-22
B 1	15	-16	16	-18	19	-21
B 2	20	-26	22	-28	25	-33
B 3	12	-18	14	-20	16	-22
B 4	10	-15	11	-16	13	-18
B 5	10	-15	11	-17	12	-20
B 6	13	-31	15	-35	16	-40
B 7	13	-17	15	-20	17	-23
B 8	11	-14	12	-16	14	-20
B 9	11	-13	12	-16	15	-19
B 10	10	-10	11	-12	11	-14
B 11	5	-16	6	-18	6	-21
B 12	5	-18	6	-21	6	-24
B 13	6	-20	7	-22	10	-26
B 14	8	-28	10	-30	10	-35
B 15	9	-13	10	-15	12	-17
B 16	10	-16	12	-17	14	-20
B 17	7	-26	8	-30	11	-32
B 18	20	-27	22	-30	25	-35
B 19	11	-16	13	-19	16	-21
B 20	18	-17	20	-20	22	-23
B 21	17	-16	19	-18	21	-22
B 22	20	-11	21	-12	23	-14
B 23	17	-17	19	-20	21	-23
B 24	18	-16	20	-19	22	-21
C 1	15	-12	17	-14	19	-17
C 2	17	-12	20	-14	21	-16
C 3	12	-20	14	-22	16	-25
C 4	11	-16	13	-18	15	-20
C 5	11	-14	11	-15	13	-17
C 6	12	-12	15	-14	16	-17

TABLE 1- 2

MARKETPLACE CENTER - BOSTON

MAXIMUM WIND LOADS (PSF) FOR SELECTED RETURN PERIODS

TAP	25 YEARS PRESSURE	25 YEARS SUCTION	50 YEARS PRESSURE	50 YEARS SUCTION	100 YEARS PRESSURE	100 YEARS SUCTION
C 7	11	-14	13	-16	15	-19
C 8	11	-11	13	-14	15	-16
C 9	10	-12	11	-15	11	-18
C 10	9	-13	10	-15	11	-17
C 11	5	-14	6	-16	6	-18
C 12	5	-16	6	-18	6	-21
C 13	5	-15	6	-17	6	-20
C 14	5	-12	5	-15	6	-17
C 15	6	-11	7	-13	8	-15
C 16	10	-15	11	-16	13	-18
C 17	7	-21	8	-22	11	-25
C 18	20	-12	21	-15	23	-17
C 19	11	-13	13	-16	15	-18
C 20	17	-16	19	-17	21	-20
C 21	17	-16	19	-17	21	-21
C 22	16	-11	19	-13	21	-15
C 23	18	-16	20	-18	21	-21
C 24	18	-16	20	-17	22	-20
D 1	15	-12	16	-14	18	-17
D 2	17	-13	20	-15	21	-17
D 3	12	-27	15	-31	16	-34
D 4	10	-17	11	-20	12	-21
D 5	10	-15	11	-16	13	-18
D 6	11	-12	12	-14	13	-16
D 7	11	-12	12	-15	13	-17
D 8	11	-13	11	-16	12	-18
D 9	10	-15	11	-17	11	-20
D 10	6	-12	6	-14	7	-17
D 11	1	-17	1	-20	3	-23
D 12	5	-21	5	-23	6	-26
D 13	6	-28	7	-31	8	-35
D 14	5	-15	5	-16	6	-19
D 15	6	-15	7	-16	8	-17
D 16	8	-16	8	-17	10	-20
D 17	6	-22	7	-25	10	-27
D 18	16	-12	18	-15	20	-17
D 19	10	-14	11	-16	13	-19
D 20	16	-15	18	-17	20	-20
D 21	14	-13	15	-16	16	-19
D 22	15	-11	16	-13	18	-15
D 23	16	-15	18	-17	20	-20
D 24	17	-15	19	-16	21	-19
E 1	15	-11	16	-12	18	-15
E 2	16	-25	17	-27	20	-30
E 3	10	-21	11	-23	13	-25
E 4	10	-17	11	-20	12	-21
E 5	10	-15	10	-16	11	-19
E 6	11	-12	12	-14	13	-16
E 7	11	-15	11	-17	13	-20
E 8	10	-14	11	-16	12	-18

TABLE 1- 3

MARKETPLACE CENTER - BOSTON

MAXIMUM WIND LOADS (PSF) FOR SELECTED RETURN PERIODS

TAP	25 YEARS PRESSURE	25 YEARS SUCTION	50 YEARS PRESSURE	50 YEARS SUCTION	100 YEARS PRESSURE	100 YEARS SUCTION
E 9	6	-12	7	-14	8	-16
E 10	5	-16	5	-18	6	-21
E 11	5	-19	5	-21	6	-23
E 12	6	-17	6	-19	8	-21
E 13	5	-22	5	-25	6	-27
E 14	5	-19	5	-21	6	-22
E 15	6	-13	7	-15	10	-17
E 16	5	-11	5	-13	5	-15
E 17	5	-22	5	-25	6	-26
E 18	10	-17	10	-19	11	-21
E 19	6	-12	6	-15	8	-17
E 20	10	-16	11	-17	11	-20
E 21	10	-12	10	-15	11	-17
E 22	10	-8	10	-10	11	-11
E 23	12	-14	15	-16	16	-18
E 24	14	-13	15	-15	16	-17
F 1	11	-6	12	-7	13	-8
F 2	5	-5	5	-6	6	-7
F 3	7	-5	8	-6	10	-7
F 4	11	-5	12	-6	14	-7
F 5	5	-6	6	-8	7	-10
F 6	5	-6	6	-6	6	-8
F 7	1	-6	1	-7	3	-9
F 8	5	-8	5	-10	6	-11
F 9	6	-5	7	-6	9	-7
F 10	5	-7	5	-10	6	-11
F 11	6	-7	6	-9	7	-10
F 12	6	-6	6	-6	8	-8
F 13	6	-8	8	-10	10	-11
F 14	6	-6	6	-7	8	-9
F 15	5	-7	6	-8	6	-10
F 16	5	-10	5	-11	5	-13
F 17	5	-16	6	-17	6	-19
G 1	11	-6	12	-7	14	-10
G 2	10	-11	10	-11	11	-13
G 3	11	-2	12	-4	14	-5
G 4	10	-2	11	-4	12	-5
G 5	0	-5	1	-5	2	-6
G 6	4	-6	5	-7	5	-9
G 7	1	-5	1	-6	2	-7
G 8	10	-5	10	-6	10	-6
G 9	5	-6	5	-7	5	-9
G 10	3	-6	5	-6	5	-8
G 11	5	-5	5	-6	6	-7
G 12	6	-6	8	-7	10	-10
G 13	6	-5	8	-6	10	-7
G 14	5	-5	6	-6	6	-7
G 15	5	-5	6	-6	7	-7
G 16	5	-6	5	-7	5	-9
G 17	5	-10	6	-12	6	-14

TABLE 1- 4

MARKETPLACE CENTER - BOSTON

MAXIMUM WIND LOADS (PSF) FOR SELECTED RETURN PERIODS

TAP	25 YEARS PRESSURE	25 YEARS SUCTION	50 YEARS PRESSURE	50 YEARS SUCTION	100 YEARS PRESSURE	100 YEARS SUCTION
H 1	5	-4	5	-5	5	-6
H 2	5	-5	5	-5	6	-6
H 3	5	-5	5	-5	5	-6
H 4	5	-5	5	-5	6	-6
H 5	5	-2	5	-3	5	-5
H 6	5	-5	5	-5	6	-6
H 7	5	-4	5	-5	5	-6
H 8	5	-6	5	-7	5	-10
H 9	6	-15	8	-16	10	-17
H 10	5	-9	6	-10	7	-11
H 11	5	-7	6	-8	6	-10
R 1	9	-15	10	-16	10	-19
R 2	6	-15	6	-16	8	-19
R 3	6	-14	7	-16	9	-17
R 4	10	-16	11	-18	12	-20
R 5	5	-21	5	-23	5	-26
R 6	0	-12	0	-14	1	-16
R 7	1	-15	1	-16	2	-19
R 8	0	-22	1	-25	2	-27
R 9	5	-17	6	-19	6	-22
R 10	0	-14	1	-16	1	-18
R 11	3	-16	5	-17	5	-20
R 12	7	-23	9	-26	10	-29
R 13	1	-16	2	-18	3	-21
R 14	0	-12	1	-15	2	-17
R 15	0	-19	1	-21	1	-24
R 16	1	-21	2	-23	3	-26
R 17	5	-20	5	-21	6	-24
R 18	1	-16	2	-17	4	-20
R 19	1	-16	2	-18	3	-21
R 20	1	-20	2	-22	4	-25
R 21	6	-16	7	-18	9	-21
R 22	6	-14	6	-16	7	-18
R 23	5	-15	6	-17	6	-20
R 24	6	-24	7	-27	9	-30
R 25	5	-16	5	-18	6	-21
R 26	3	-15	5	-16	5	-18
R 27	0	-16	1	-17	2	-20
R 28	1	-19	2	-21	4	-24
R 29	7	-14	9	-16	11	-17
R 30	8	-12	10	-14	11	-16
R 31	6	-14	7	-15	9	-17
R 32	6	-15	7	-16	9	-18
S 1	18	-11	20	-12	21	-15
S 2	13	-24	15	-26	17	-29
S 3	11	-15	12	-16	14	-18
S 4	10	-15	11	-17	12	-20
S 5	8	-21	10	-24	11	-26
S 6	6	-14	7	-16	10	-19
S 7	12	-10	14	-11	16	-13

TABLE 1- 5

MARKETPLACE CENTER - BOSTON

MAXIMUM WIND LOADS (PSF) FOR SELECTED RETURN PERIODS

TAP	25 YEARS PRESSURE	25 YEARS SUCTION	50 YEARS PRESSURE	50 YEARS SUCTION	100 YEARS PRESSURE	100 YEARS SUCTION
S 8	7	-21	9	-24	10	-27
S 9	1	-24	3	-26	5	-30
S 10	0	-24	1	-26	2	-30
S 11	0	-17	1	-20	1	-21
S 12	5	-5	5	-6	5	-7
S 13	5	-8	5	-10	6	-11
S 14	5	-6	5	-8	5	-10
S 15	5	-6	6	-6	6	-8
S 16	10	-5	10	-6	11	-7
S 17	5	-6	6	-6	6	-7
S 18	5	-6	5	-6	5	-8
S 19	3	-6	5	-6	5	-8
S 20	5	-12	5	-15	6	-16
S 21	2	-10	5	-11	5	-13
S 22	1	-6	3	-7	5	-8
S 23	6	-16	7	-19	9	-21
S 24	6	-10	7	-10	9	-11
S 25	6	-8	6	-10	8	-11
S 26	5	-10	6	-11	6	-12
S 27	6	-6	7	-8	9	-10
S 28	10	-19	11	-21	13	-23
S 29	5	-10	6	-11	7	-13
S 30	3	-6	5	-8	5	-10
S 31	5	-6	5	-7	6	-9
S 32	5	-6	6	-6	7	-8
S 33	6	-6	7	-7	9	-8
S 34	5	-6	6	-7	6	-9
S 35	5	-8	6	-10	6	-11
S 36	5	-10	5	-11	5	-13
S 37	5	-17	5	-20	6	-22
S 38	6	-21	6	-23	8	-26
T 1	5	-15	5	-16	5	-18
T 2	5	-8	5	-10	5	-11
T 3	5	-10	6	-11	6	-11
T 4	5	-10	5	-10	5	-11
T 5	5	-6	6	-8	6	-10
T 6	6	-7	8	-10	10	-12
T 7	8	-16	10	-18	11	-20

TABLE 2- 1

NEARBY BUILDINGS - WITH STUDY BUILDING

MAXIMUM WIND LOADS (PSF) FOR SELECTED RETURN PERIODS

TAP	25 YEARS PRESSURE	25 YEARS SUCTION	50 YEARS PRESSURE	50 YEARS SUCTION	100 YEARS PRESSURE	100 YEARS SUCTION
J 1	5	-6	5	-7	5	-9
J 2	3	-6	5	-6	5	-8
J 3	1	-6	3	-6	5	-8
J 4	1	-5	2	-6	4	-7
J 5	4	-6	5	-6	5	-7
J 6	2	-5	5	-6	5	-7
K 1	1	-11	2	-12	4	-15
K 2	1	-15	2	-16	5	-18
K 3	3	-11	5	-12	5	-15
K 4	3	-11	5	-13	5	-16
K 5	7	-12	10	-15	10	-16
K 6	12	-11	15	-12	16	-15
K 7	7	-5	9	-6	10	-7
K 8	5	-7	6	-9	7	-11
K 9	12	-10	14	-11	15	-14
K 10	10	-6	11	-6	12	-8
K 11	10	-7	10	-8	11	-10
K 12	5	-5	5	-6	6	-7
K 13	10	-10	10	-11	11	-13
K 14	1	-6	2	-6	4	-8
K 15	5	-10	5	-10	5	-11
L 1	21	-16	23	-19	26	-23
L 2	16	-24	17	-27	20	-31
L 3	13	-24	15	-27	16	-30
L 4	13	-21	16	-23	17	-26
L 5	10	-33	11	-36	14	-40
L 6	20	-19	22	-21	25	-23
L 7	15	-19	15	-21	16	-23
L 8	10	-27	11	-30	13	-33
L 9	13	-24	15	-26	17	-29
L 10	16	-20	18	-23	20	-27
L 11	16	-21	17	-24	20	-28
L 12	10	-35	11	-38	12	-42
L 13	11	-24	12	-26	14	-30
L 14	6	-10	7	-11	8	-12
L 15	8	-6	10	-7	10	-9
L 16	5	-11	5	-12	6	-14
L 17	16	-16	17	-18	20	-20
L 18	9	-12	10	-15	11	-17
L 19	8	-11	10	-13	11	-16
L 20	5	-11	5	-13	6	-15
L 21	5	-6	5	-7	5	-9
M 1	5	-13	6	-15	6	-16
M 2	10	-6	11	-6	12	-7
M 3	11	-11	12	-12	14	-14
M 4	6	-16	6	-17	7	-20
M 5	12	-10	14	-11	16	-12
M 6	7	-17	10	-18	10	-21
M 7	5	-17	5	-20	6	-22
M 8	2	-8	5	-10	5	-11

TABLE 2- 2

NEARBY BUILDINGS - WITH STUDY BUILDING

MAXIMUM WIND LOADS (PSF) FOR SELECTED RETURN PERIODS

TAP	25 YEARS PRESSURE	25 YEARS SUCTION	50 YEARS PRESSURE	50 YEARS SUCTION	100 YEARS PRESSURE	100 YEARS SUCTION
M 9	5	-8	6	-10	6	-11
M 10	5	-7	5	-10	5	-11
M 11	5	-16	5	-18	5	-21
M 12	10	-10	11	-11	12	-13
M 13	8	-10	10	-11	11	-12
M 14	5	-11	5	-12	6	-15
M 15	5	-10	6	-11	6	-12
M 16	0	-2	0	-4	0	-5
M 17	1	-5	2	-6	5	-7

TABLE 3- 1

NEARBY BUILDINGS - EXISTING CONDITIONS

MAXIMUM WIND LOADS (PSF) FOR SELECTED RETURN PERIODS

TAP	25 YEARS PRESSURE	25 YEARS SUCTION	50 YEARS PRESSURE	50 YEARS SUCTION	100 YEARS PRESSURE	100 YEARS SUCTION
J 1	4	-13	5	-15	5	-16
J 2	1	-14	2	-15	3	-17
J 3	2	-9	3	-10	5	-11
J 4	1	-6	2	-6	3	-8
J 5	5	-5	5	-6	5	-7
J 6	2	-7	4	-8	5	-10
K 1	1	-10	1	-12	2	-14
K 2	1	-11	2	-13	3	-15
K 3	1	-11	2	-12	4	-15
K 4	5	-11	5	-12	5	-15
K 5	10	-11	10	-12	11	-15
K 6	17	-9	19	-11	21	-12
K 7	6	-8	8	-10	10	-11
K 8	6	-10	7	-11	9	-13
K 9	13	-9	15	-11	16	-12
K 10	10	-9	11	-10	12	-11
K 11	12	-6	14	-8	15	-10
K 12	5	-6	5	-7	5	-9
K 13	9	-10	10	-11	11	-12
K 14	6	-6	7	-6	8	-7
K 15	5	-10	6	-11	6	-13
L 1	19	-16	21	-19	23	-23
L 2	17	-16	19	-19	21	-22
L 3	14	-22	16	-25	17	-28
L 4	12	-20	14	-21	16	-24
L 5	9	-31	11	-35	14	-38
L 6	18	-18	20	-21	22	-25
L 7	17	-19	20	-22	21	-26
L 8	12	-32	15	-36	16	-40
L 9	11	-25	13	-27	16	-31
L 10	17	-21	19	-24	21	-28
L 11	15	-23	16	-27	18	-31
L 12	11	-39	12	-43	14	-48
L 13	10	-23	11	-26	12	-29
L 14	6	-10	7	-11	9	-13
L 15	9	-6	10	-8	10	-10
L 16	6	-10	6	-11	8	-12
L 17	11	-16	12	-17	13	-18
L 18	10	-11	11	-13	11	-16
L 19	9	-11	11	-13	12	-18
L 20	10	-9	10	-10	11	-11
L 21	6	-6	6	-7	8	-9
M 1	6	-11	6	-13	8	-16
M 2	10	-5	11	-6	13	-7
M 3	14	-10	15	-11	17	-12
M 4	6	-11	7	-12	8	-14
M 5	9	-10	10	-11	11	-13
M 6	10	-11	10	-12	11	-13
M 7	5	-17	5	-19	6	-22
M 8	4	-6	5	-7	5	-9

TABLE 3- 2

NEARBY BUILDINGS - EXISTING CONDITIONS

MAXIMUM WIND LOADS (PSF) FOR SELECTED RETURN PERIODS

TAP	25 YEARS PRESSURE	25 YEARS SUCTION	50 YEARS PRESSURE	50 YEARS SUCTION	100 YEARS PRESSURE	100 YEARS SUCTION
M 9	10	-4	11	-5	13	-6
M 10	9	-5	10	-6	11	-8
M 11	5	-21	5	-22	5	-25
M 12	10	-5	11	-6	12	-7
M 13	6	-6	7	-6	10	-7
M 14	5	-16	5	-19	6	-21
M 15	5	-16	5	-17	5	-20
M 16	0	-4	0	-5	0	-5
M 17	5	-6	5	-7	5	-10

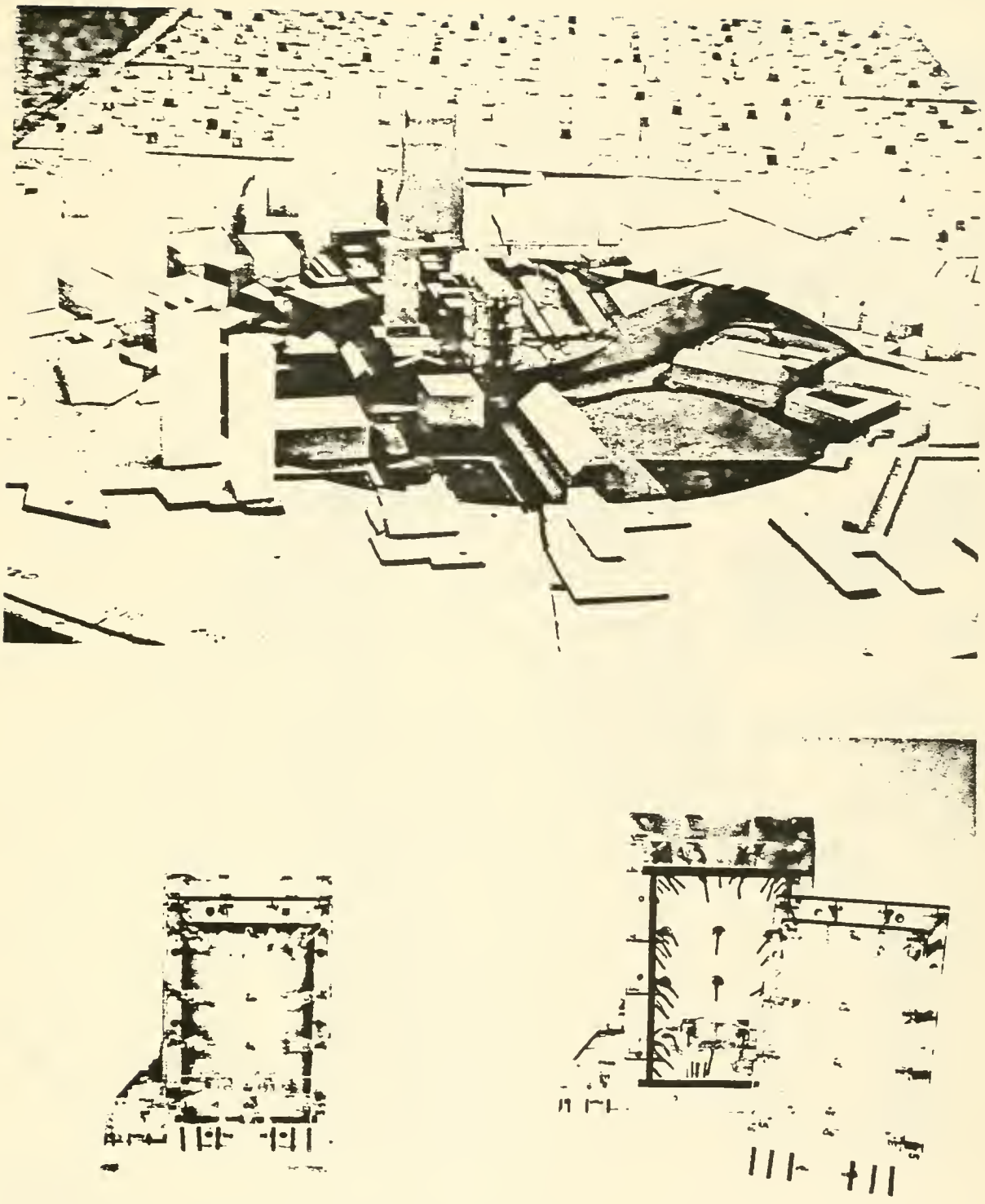


FIGURE 1
WIND PRESSURE TEST MODEL

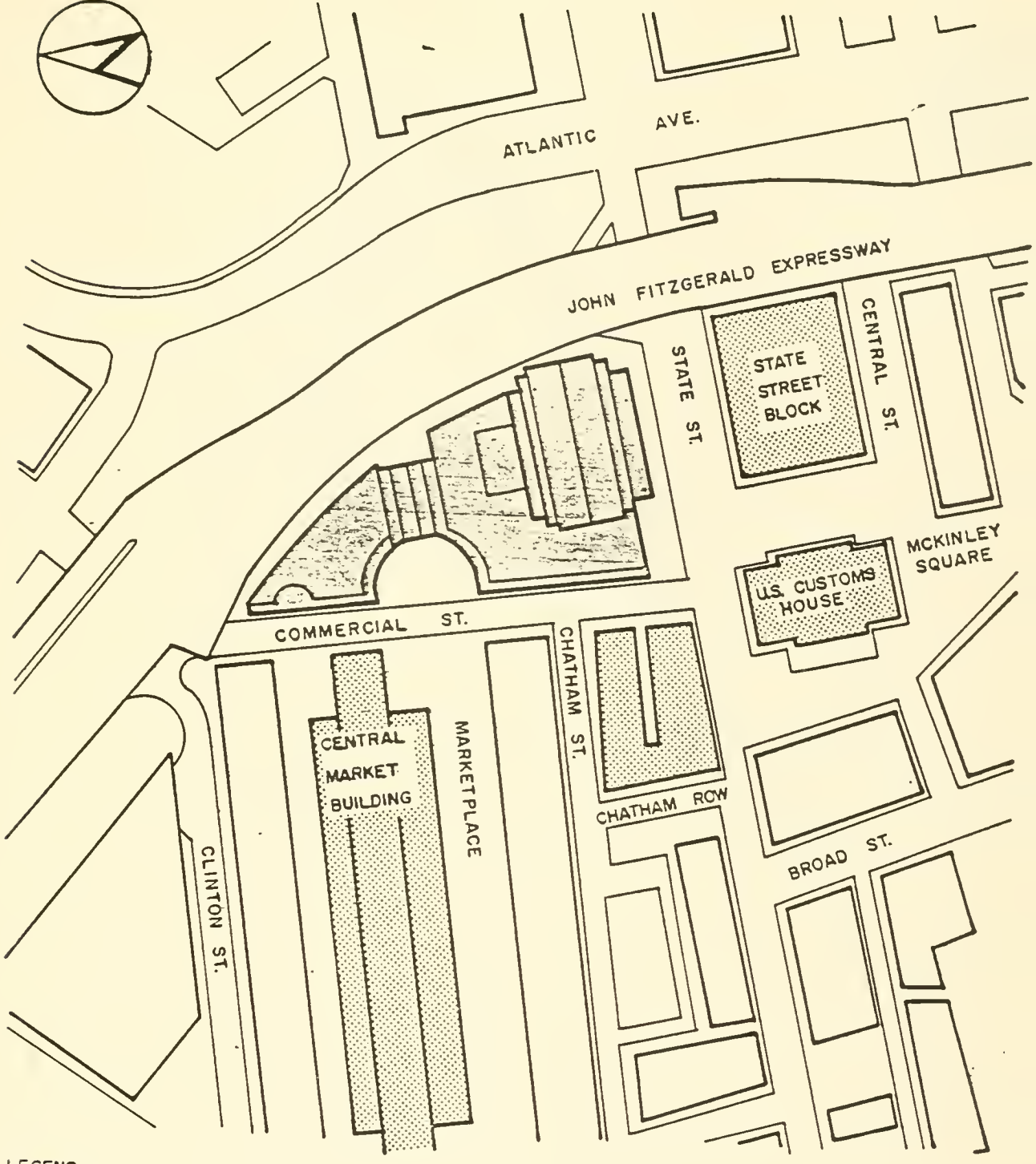


FIGURE 2
ORIENTATION PLAN OF STUDY AREA
APPROX. SCALE 1:1800

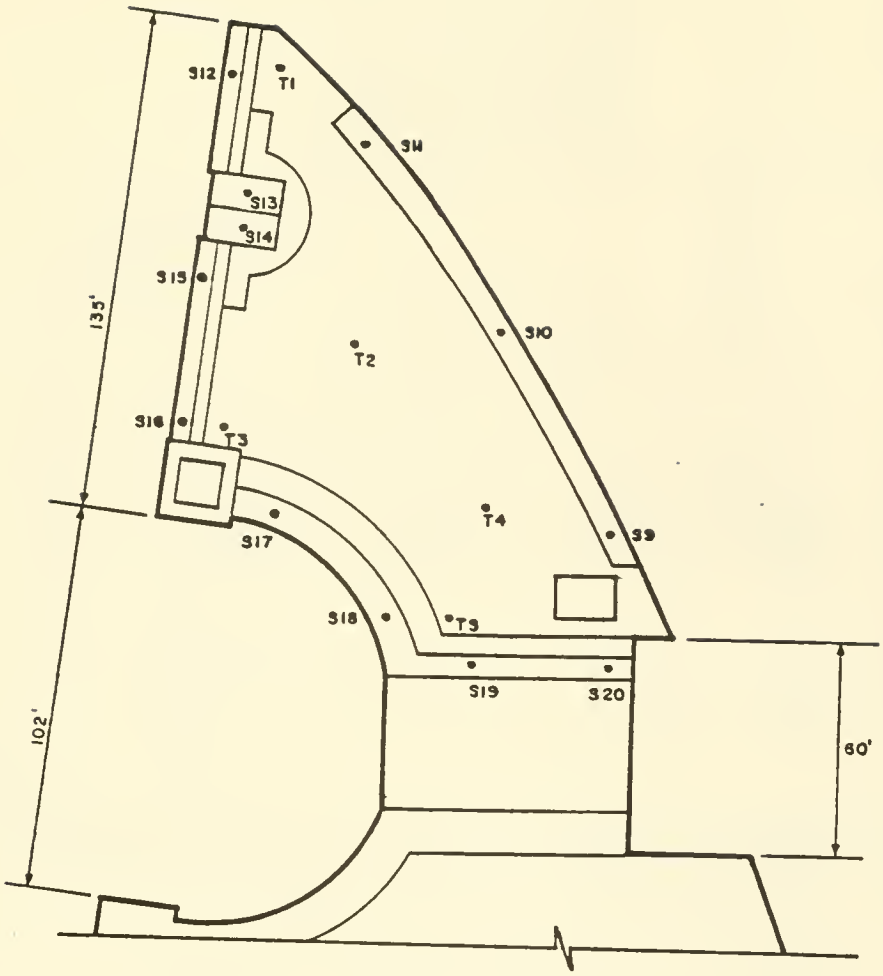


FIGURE 3
PRESSURE TAP LOCATIONS
PARTIAL ROOF PLAN

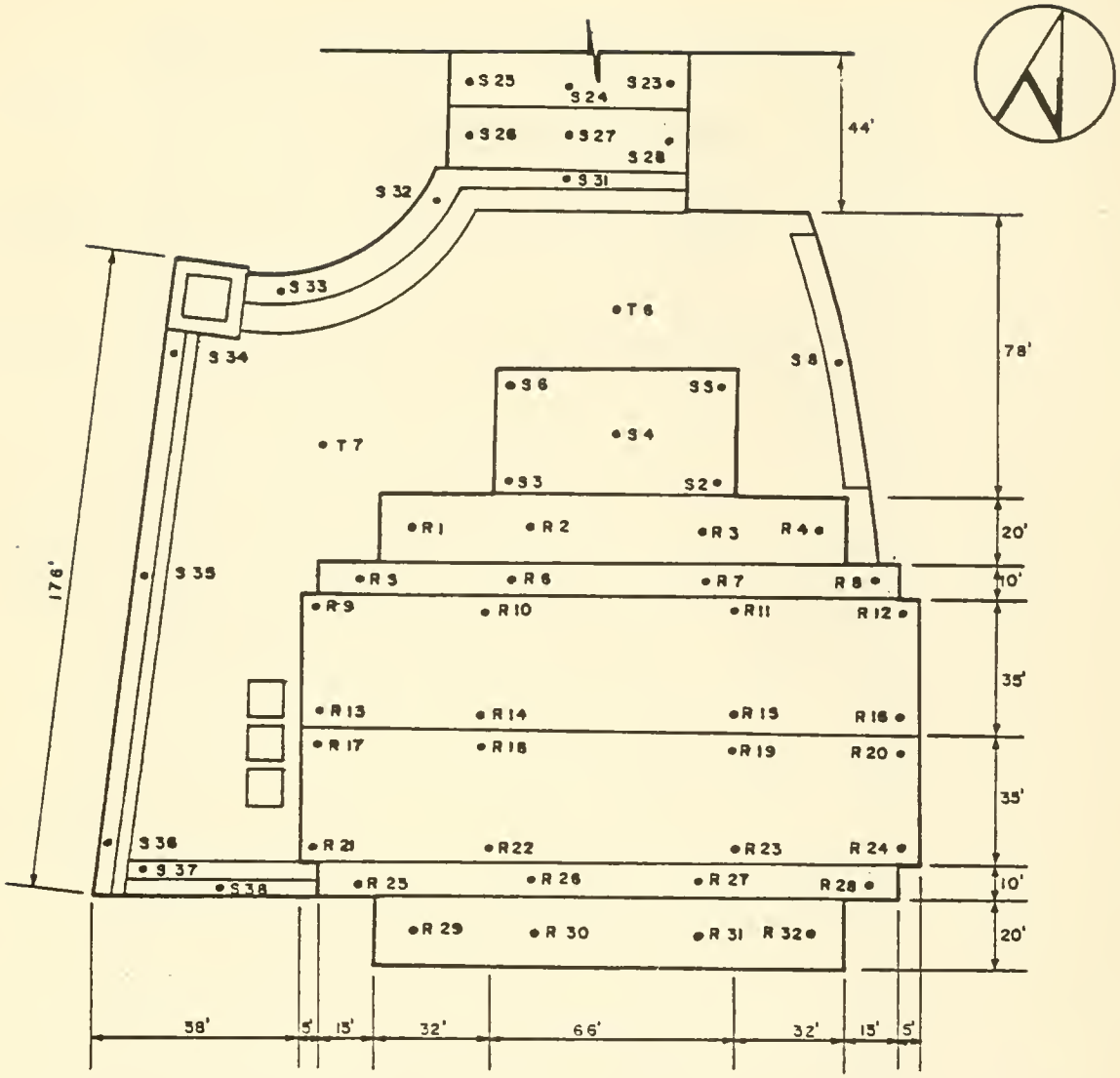


FIGURE 4
PRESSURE TAP LOCATIONS
PARTIAL ROOF PLAN

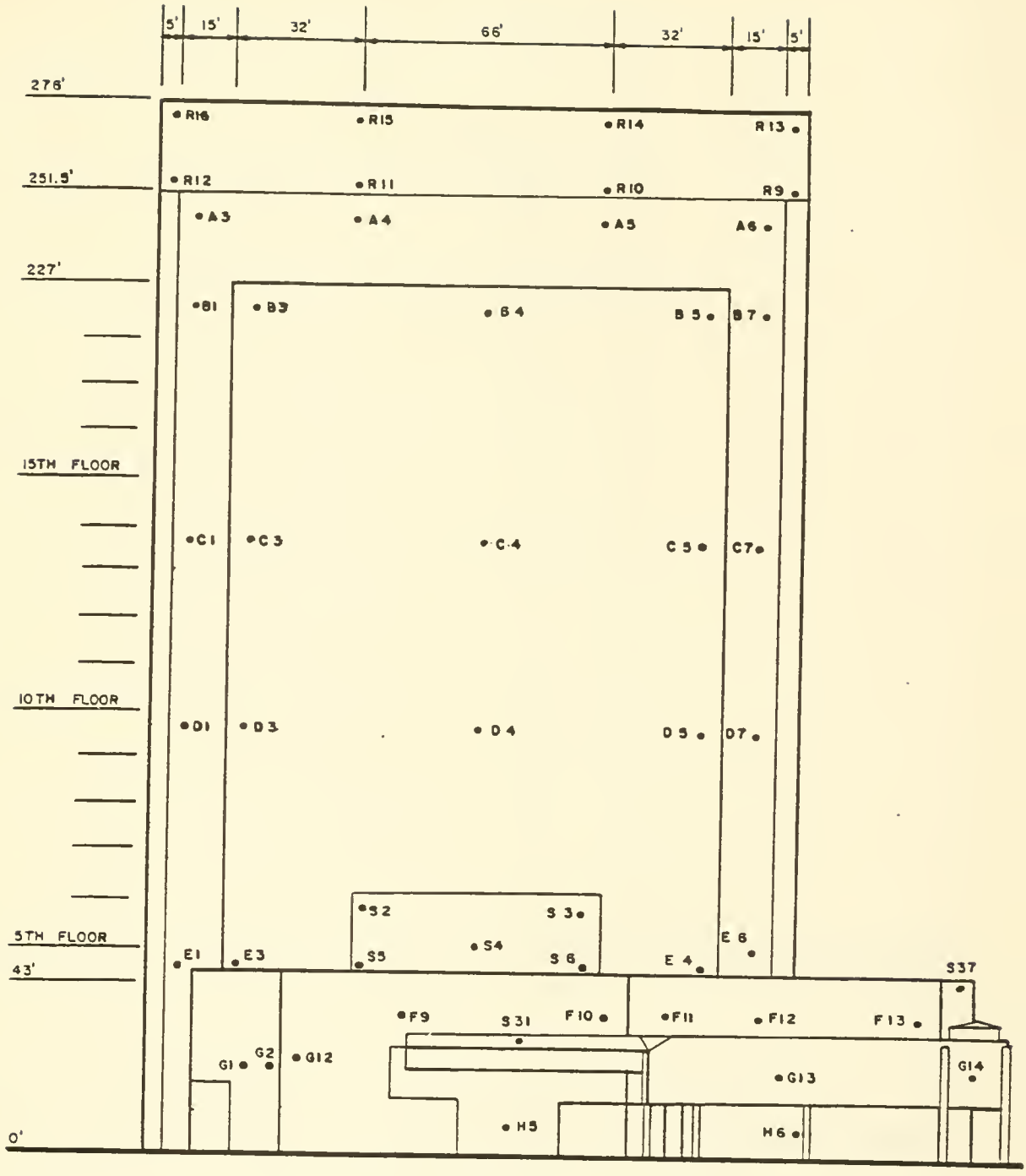


FIGURE 5
PRESSURE TAP LOCATIONS
NORTH ELEVATION

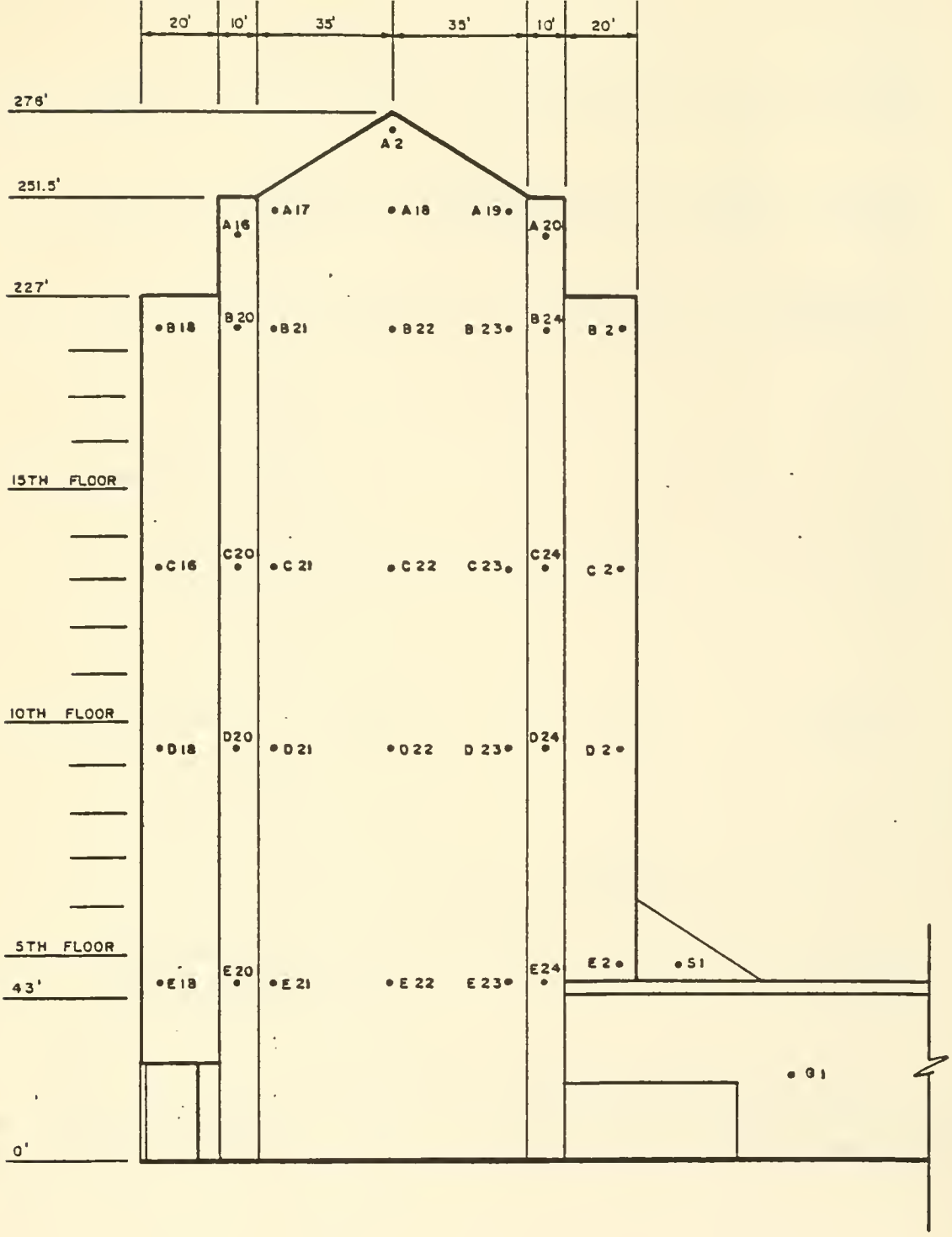


FIGURE 6

PRESSURE TAP LOCATIONS
EAST ELEVATION

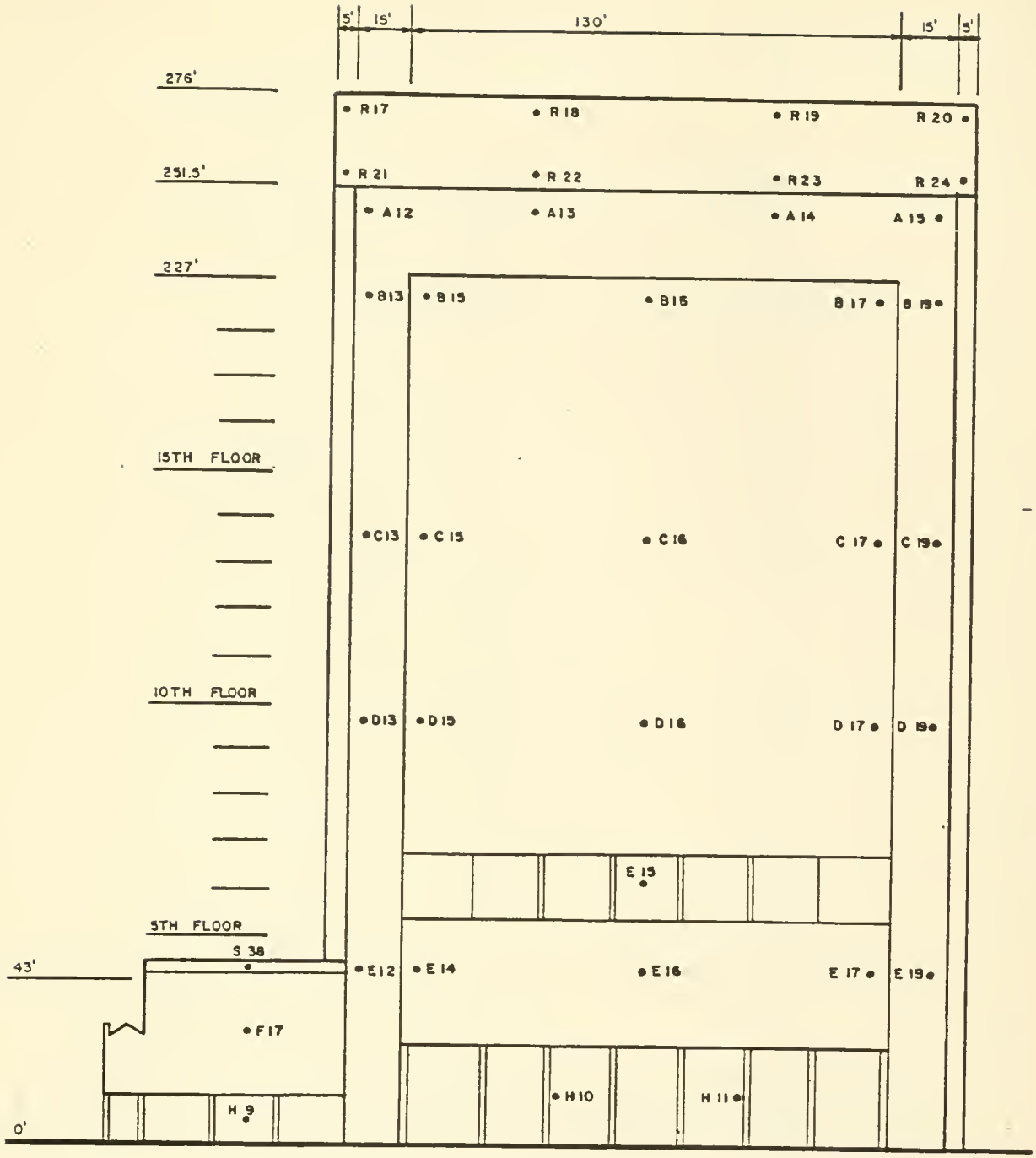


FIGURE 7
PRESSURE TAP LOCATIONS
SOUTH ELEVATION

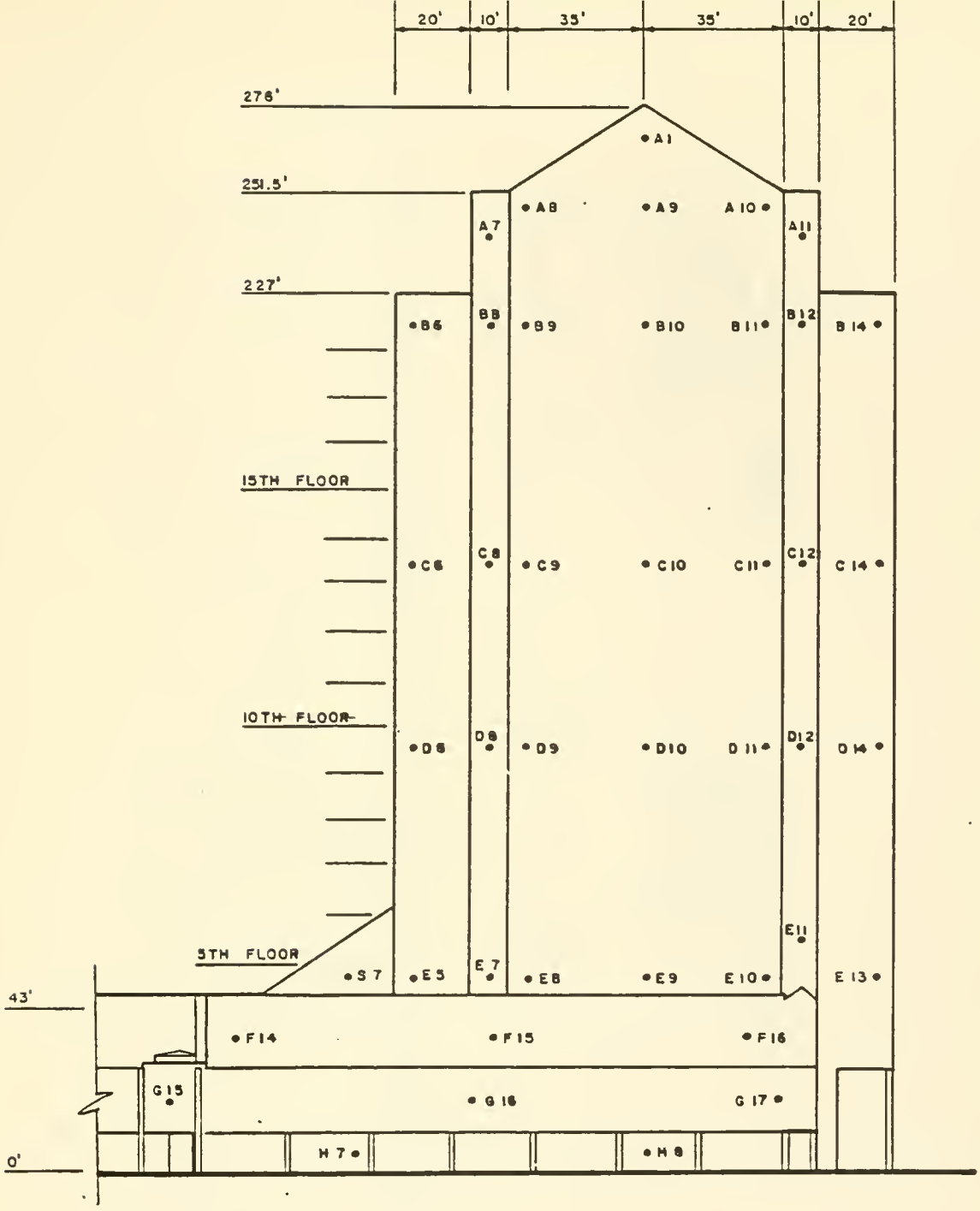


FIGURE 8

PRESSURE TAP LOCATIONS
WEST ELEVATION

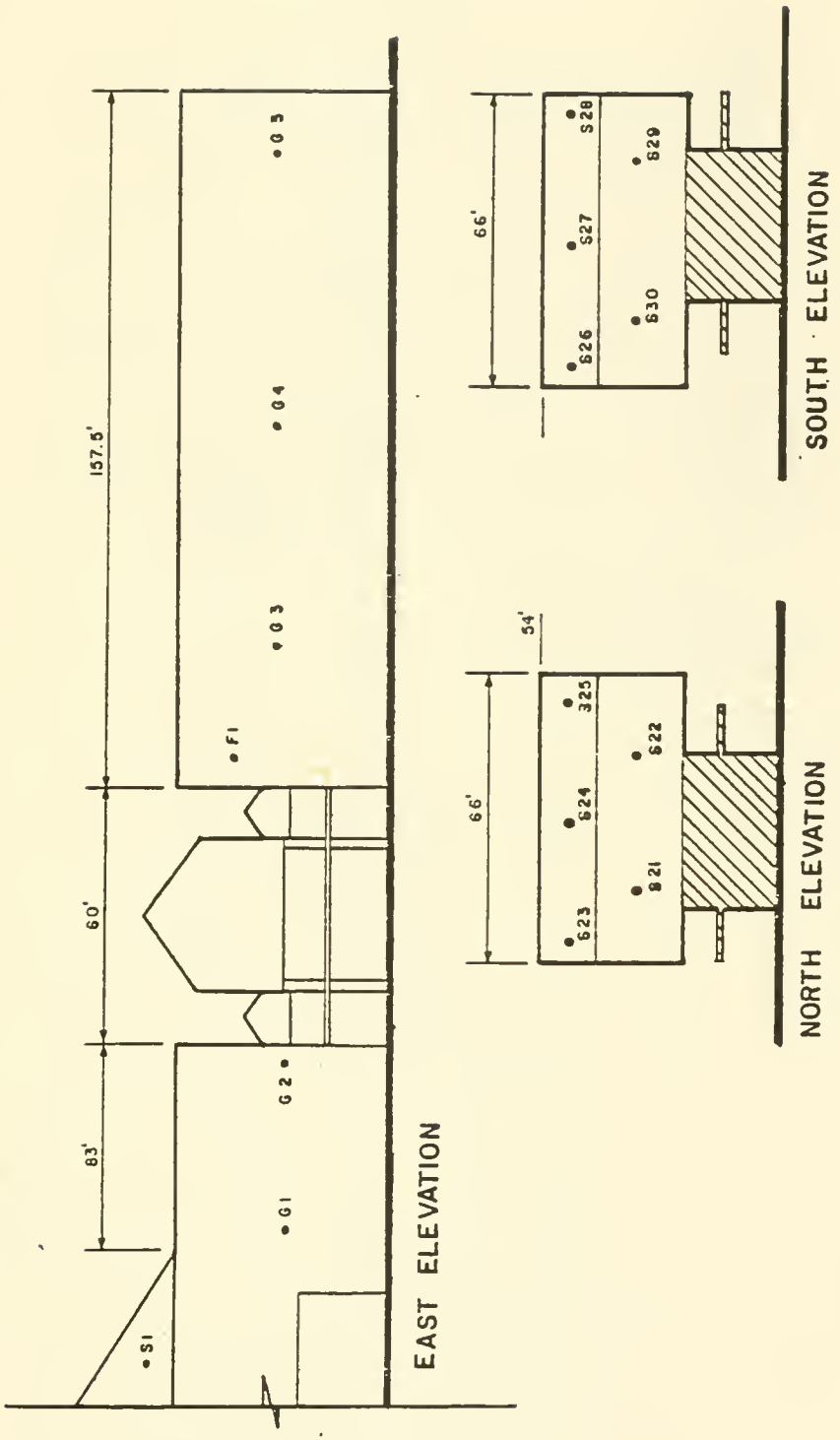


FIGURE 9
PRESSURE TAP LOCATIONS
PODIUM ELEVATIONS

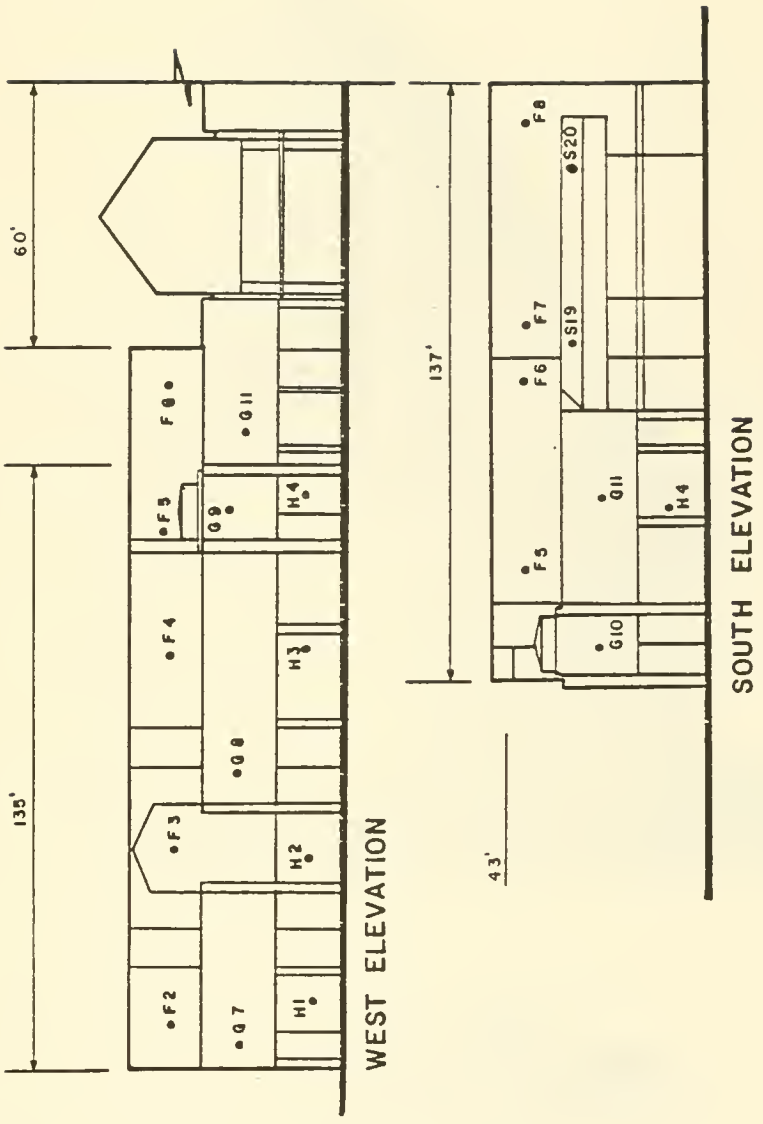
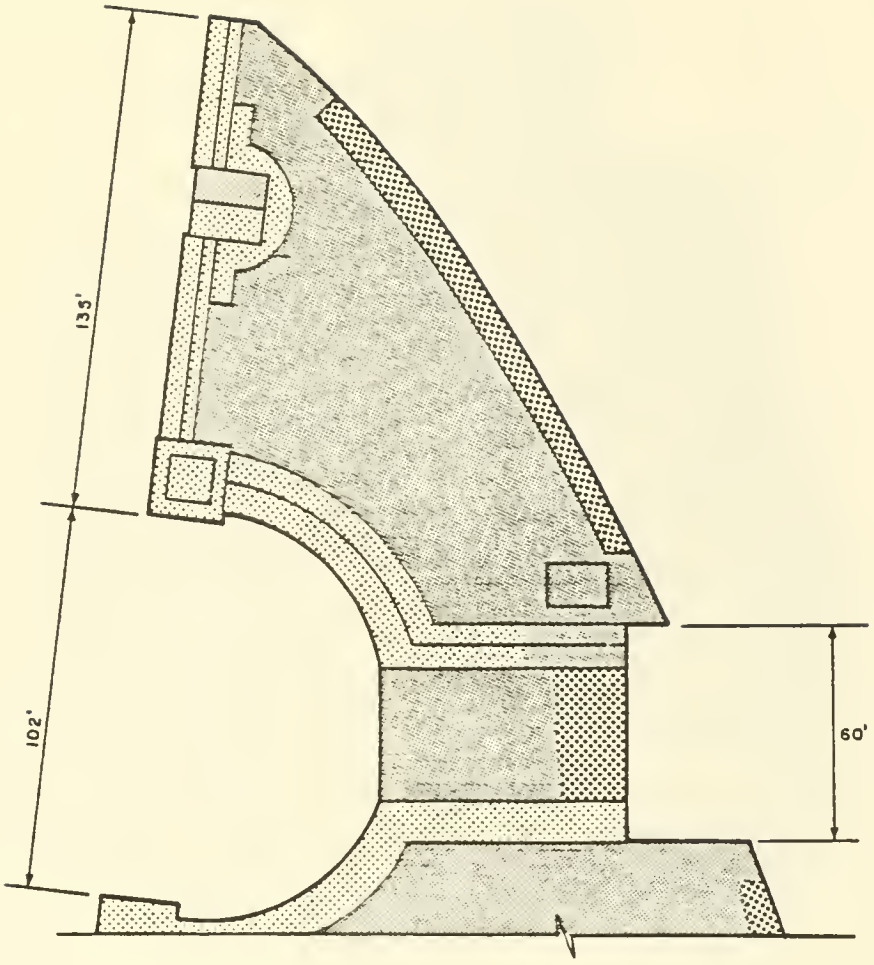


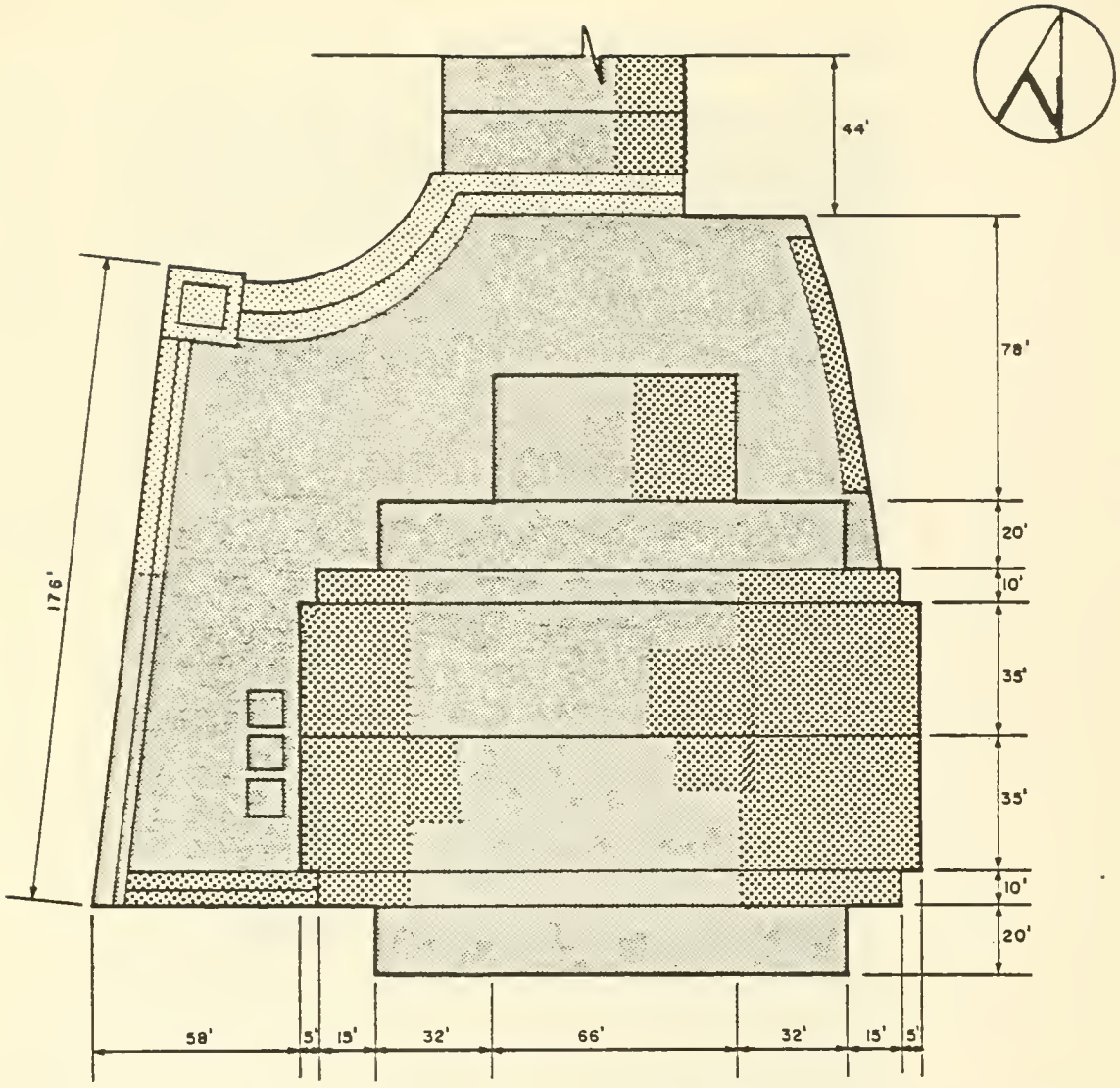
FIGURE 10
PRESSURE TAP LOCATIONS
PODIUM ELEVATIONS



LEGEND

0-10 11-20 21-30 31-40
PSF

FIGURE 11
EXTERIOR PEAK SUCTIONS
PARTIAL ROOF PLAN



LEGEND

0-10 11-20 21-30 31-40
PSF

FIGURE 12
EXTERIOR PEAK SUCTIONS
PARTIAL ROOF PLAN

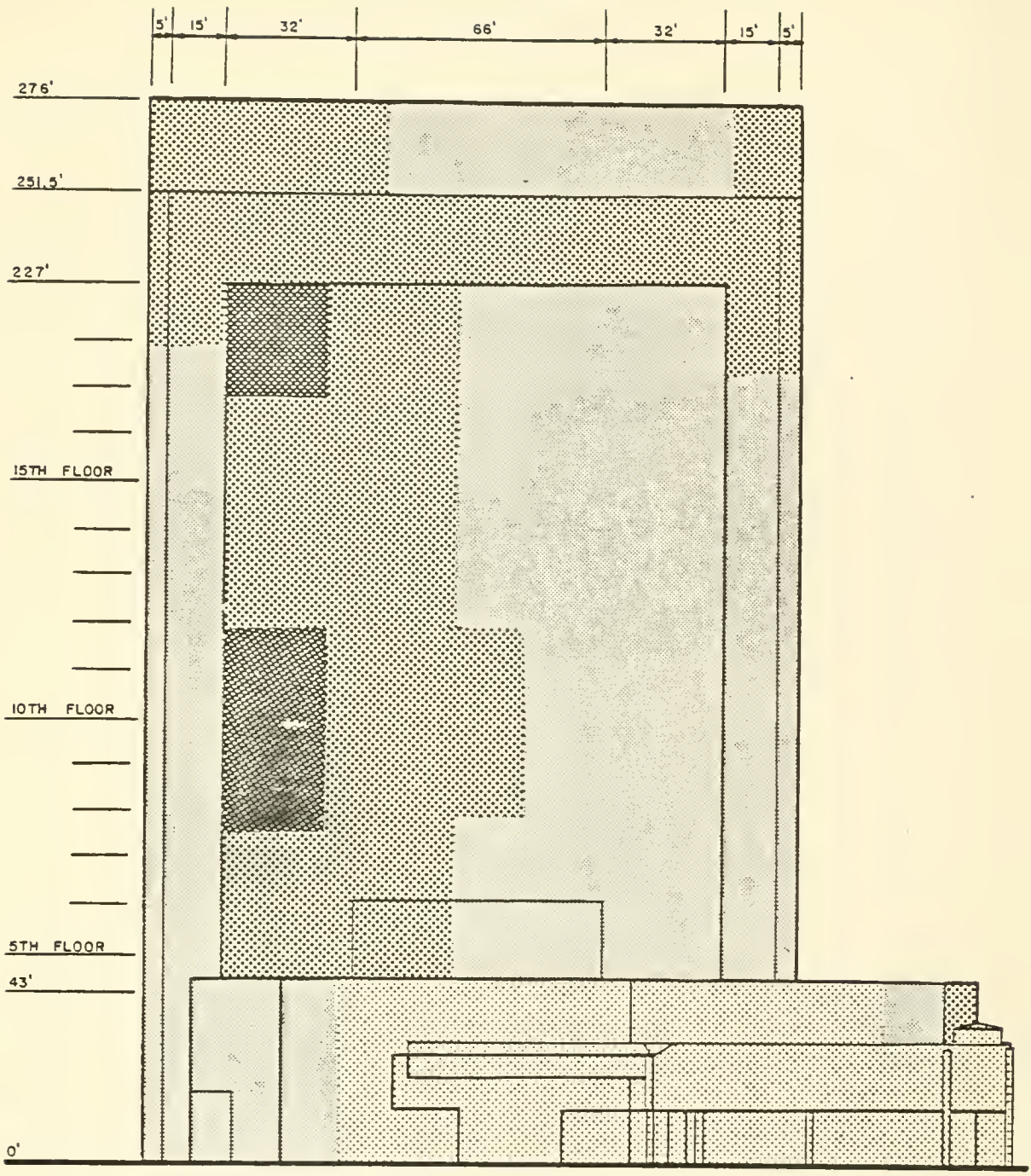


FIGURE 13
EXTERIOR PEAK SUCTIONS
NORTH ELEVATION

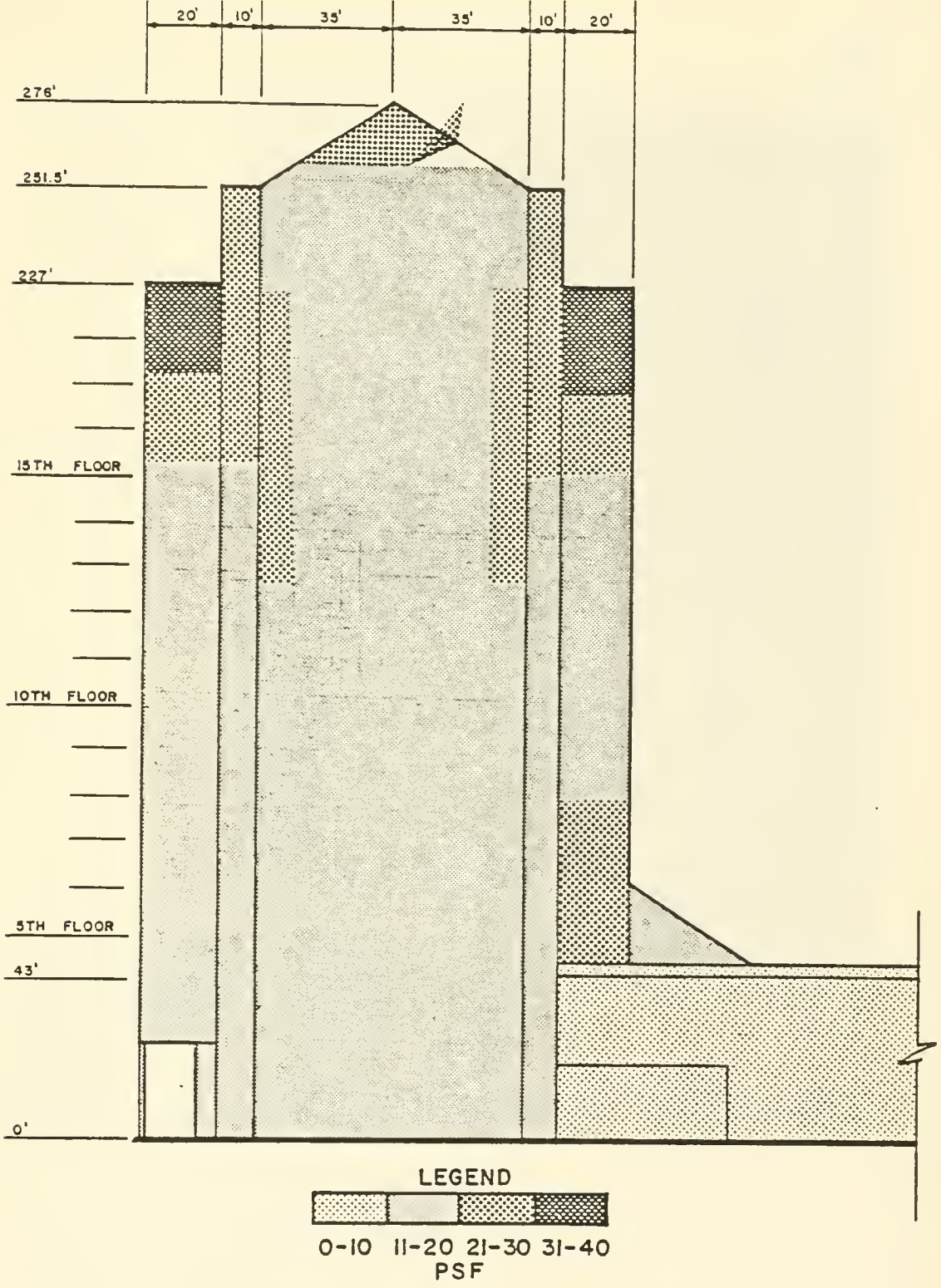


FIGURE 14
EXTERIOR PEAK SUCTIONS
EAST ELEVATION

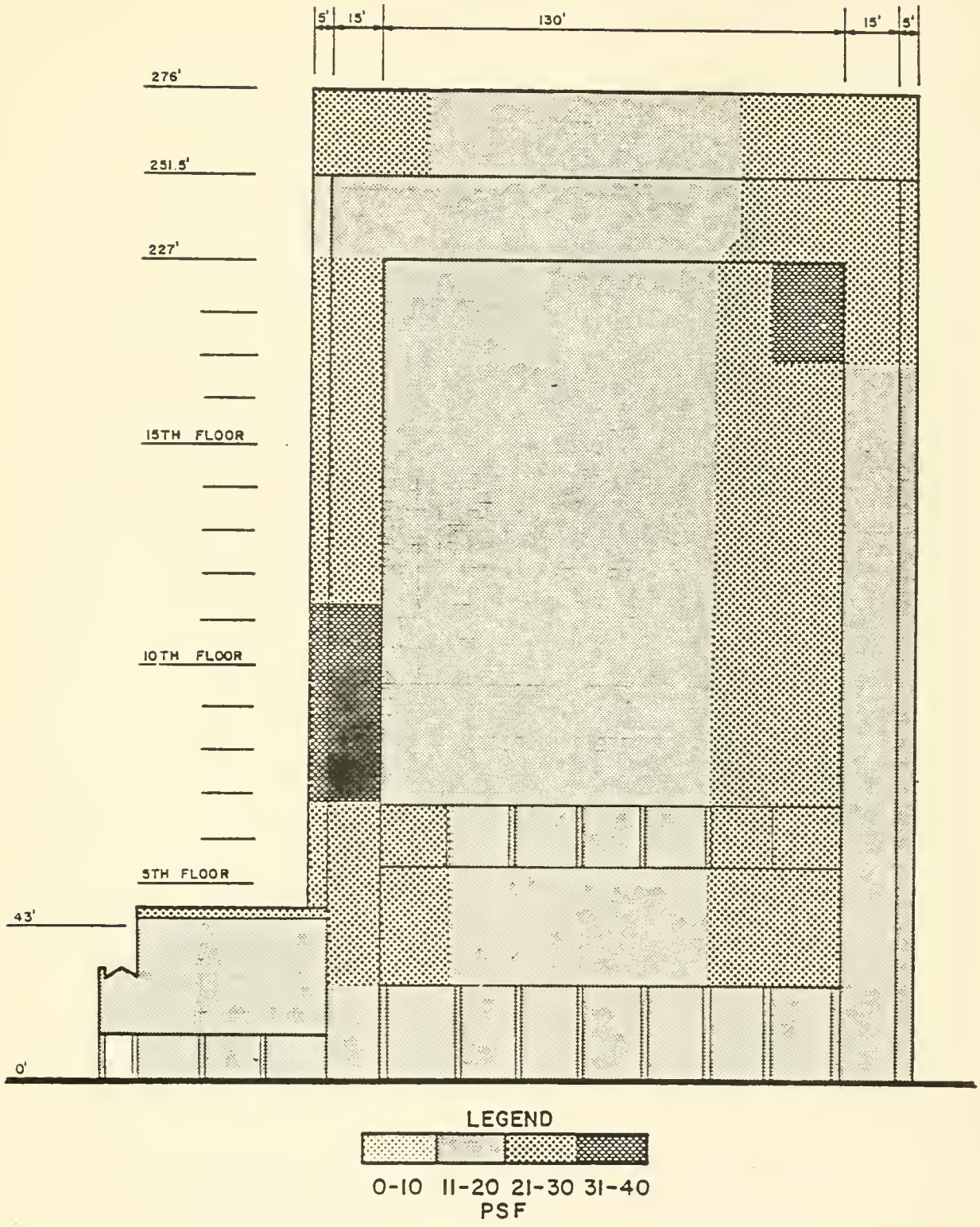


FIGURE 15
EXTERIOR PEAK SUCTIONS
SOUTH ELEVATION

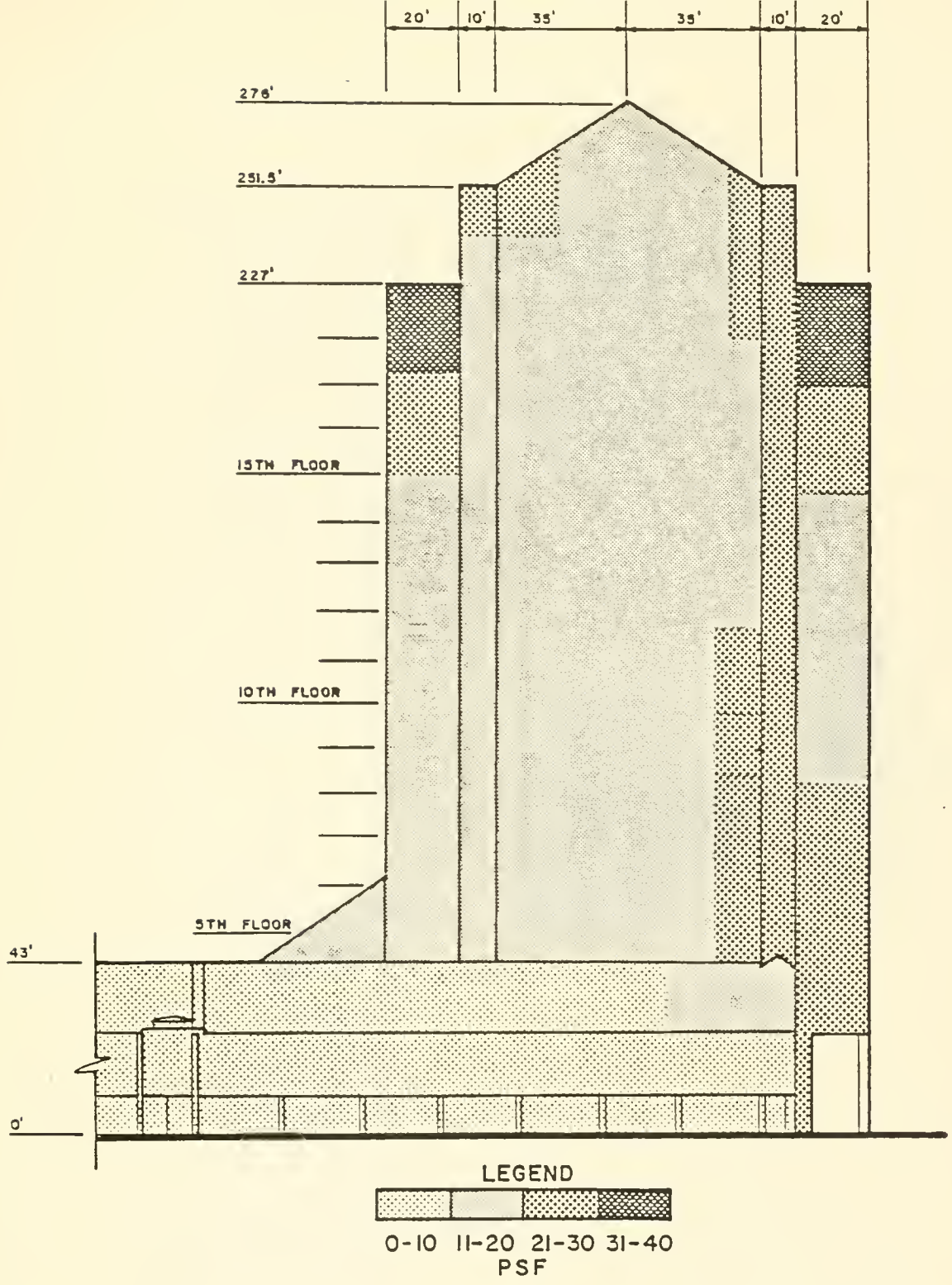


FIGURE 16
EXTERIOR PEAK SUCTIONS
WEST ELEVATION

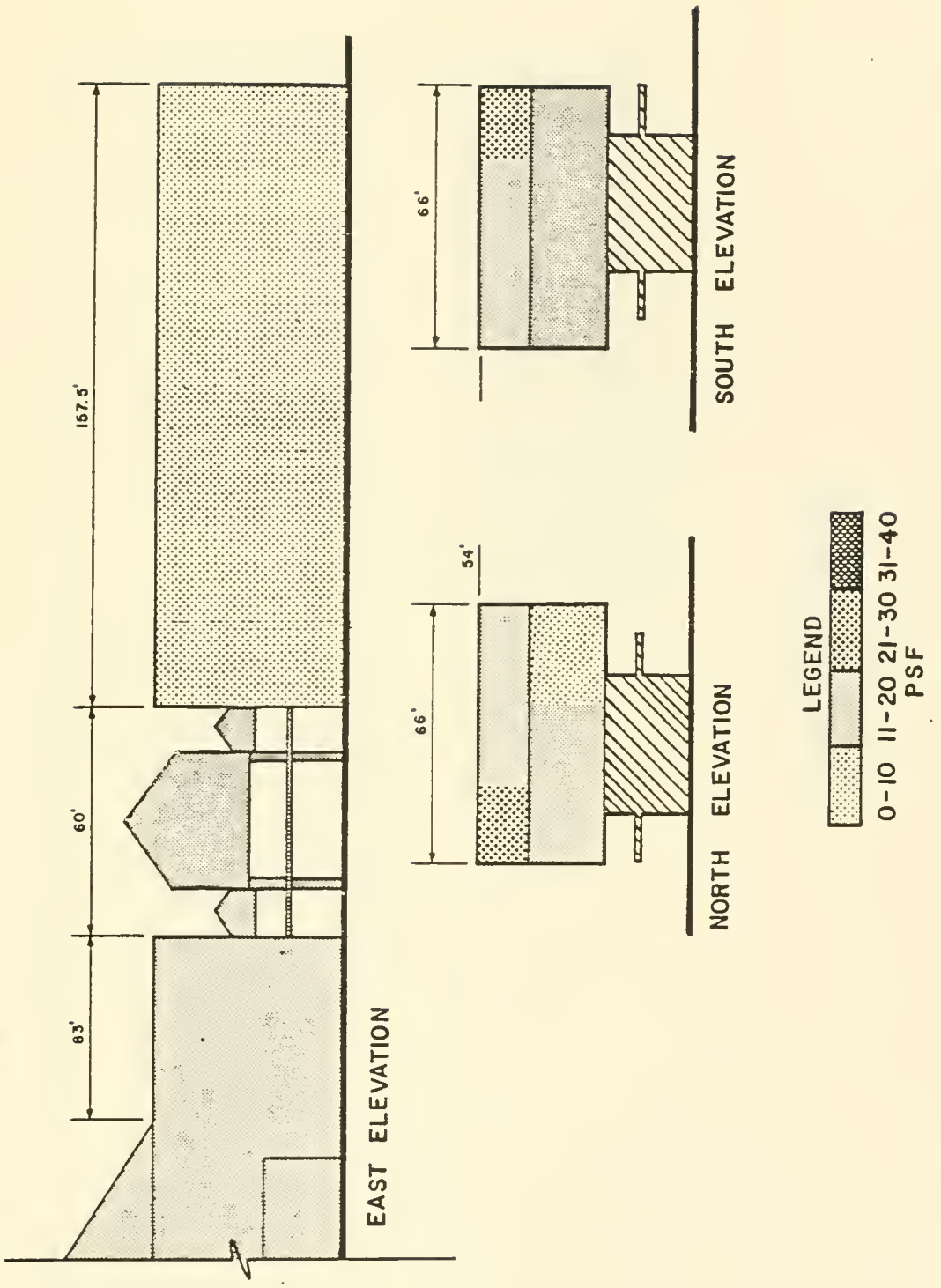


FIGURE 17
EXTERIOR PEAK SUCTIONS
PODIUM ELEVATIONS

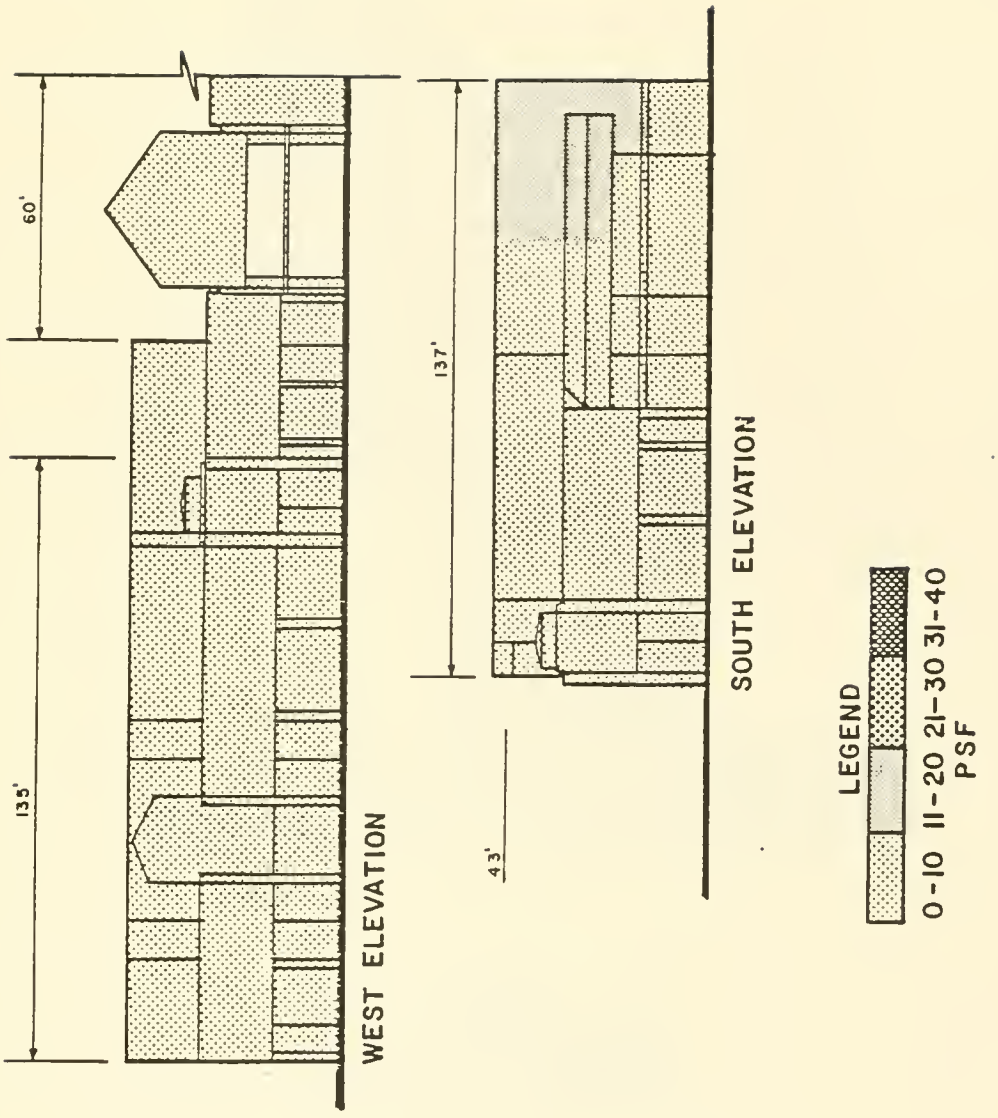
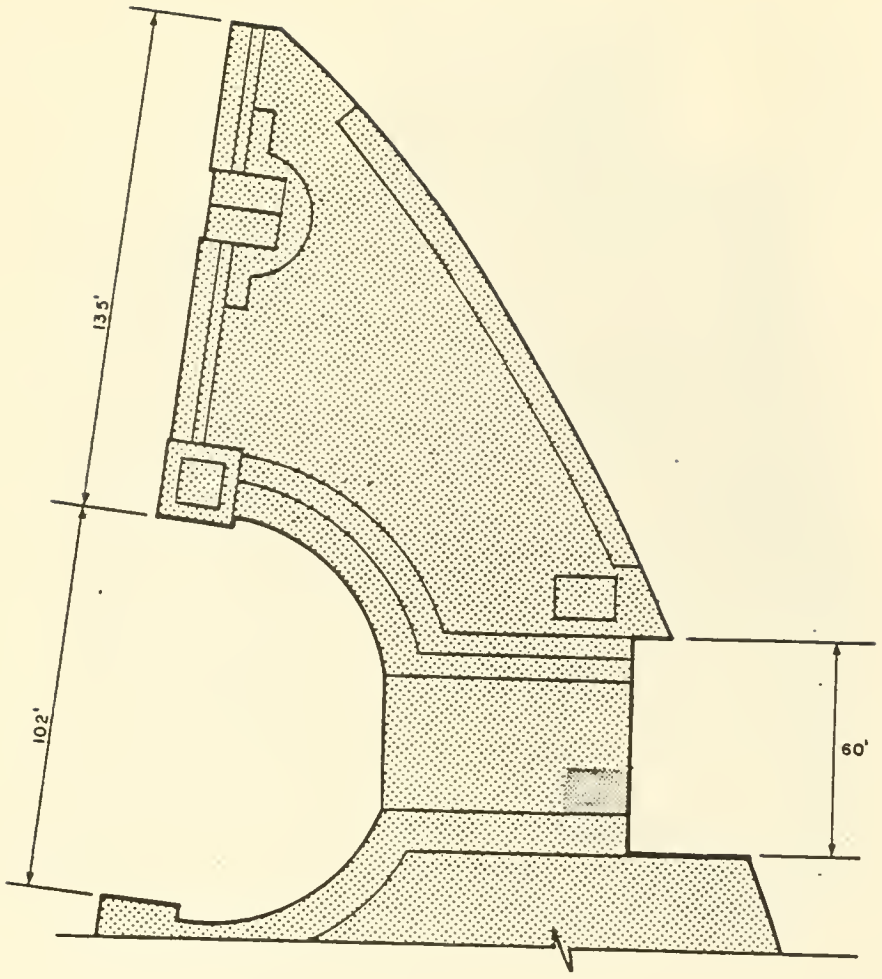
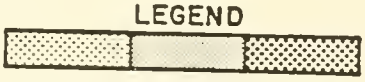


FIGURE 18
EXTERIOR PEAK SUCTIONS
PODIUM ELEVATIONS

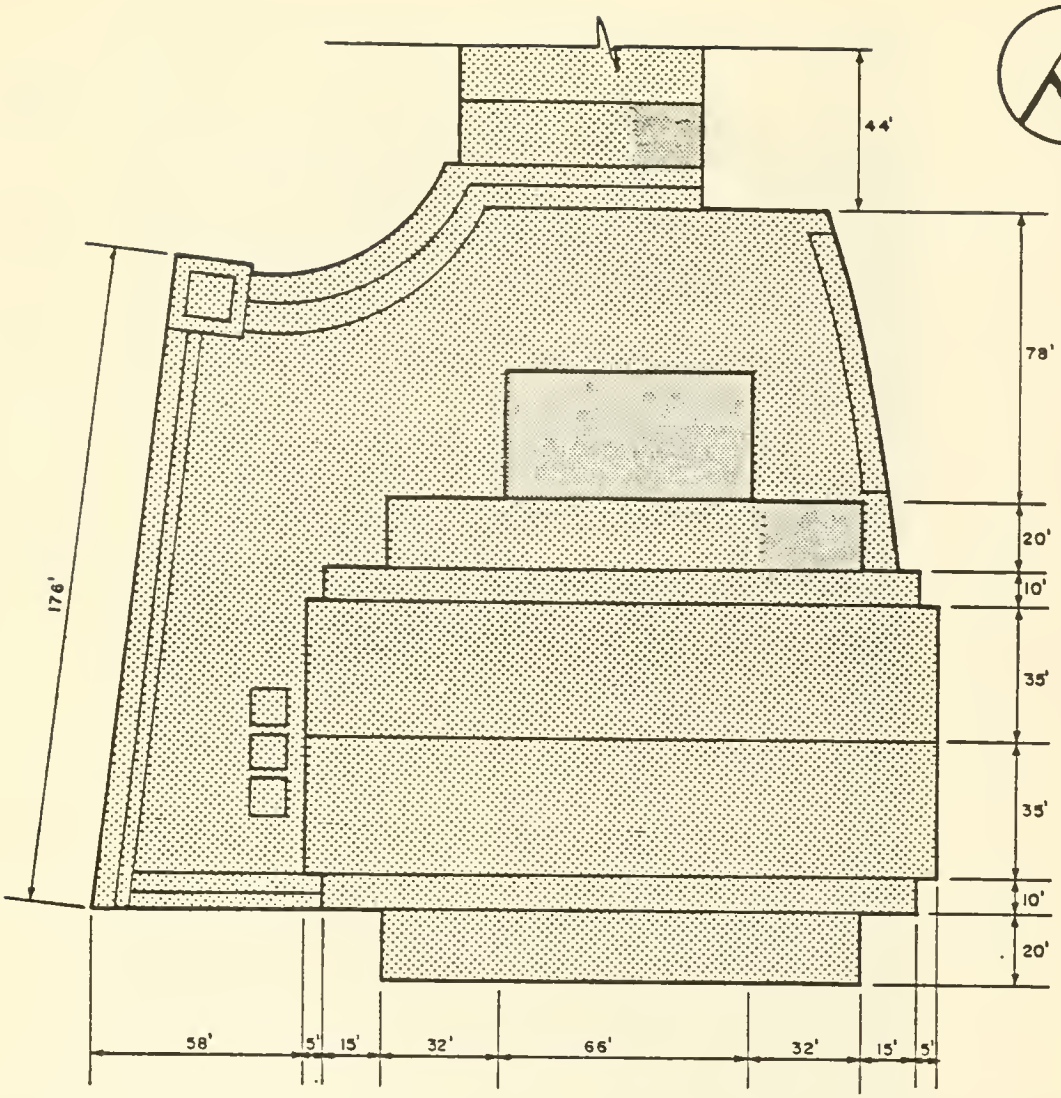


LEGEND



0 - 10 11 - 20 21 - 25
PSF

FIGURE 19
EXTERIOR PEAK PRESSURES
PARTIAL ROOF PLAN



LEGEND

0 - 10 11 - 20 21 - 25
PSF

FIGURE 20
EXTERIOR PEAK PRESSURES
PARTIAL ROOF PLAN

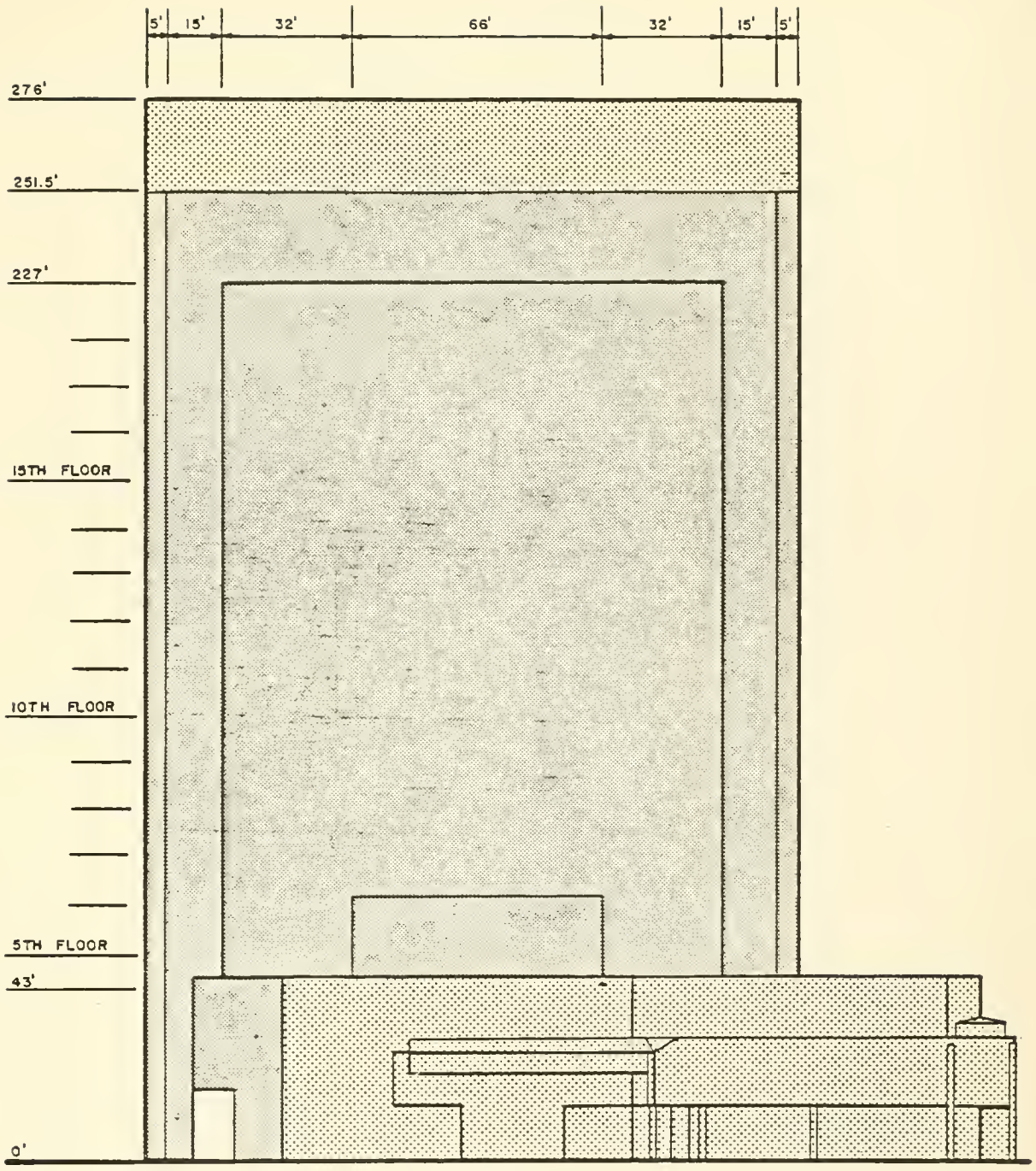


FIGURE 21
EXTERIOR PEAK PRESSURES
NORTH ELEVATION

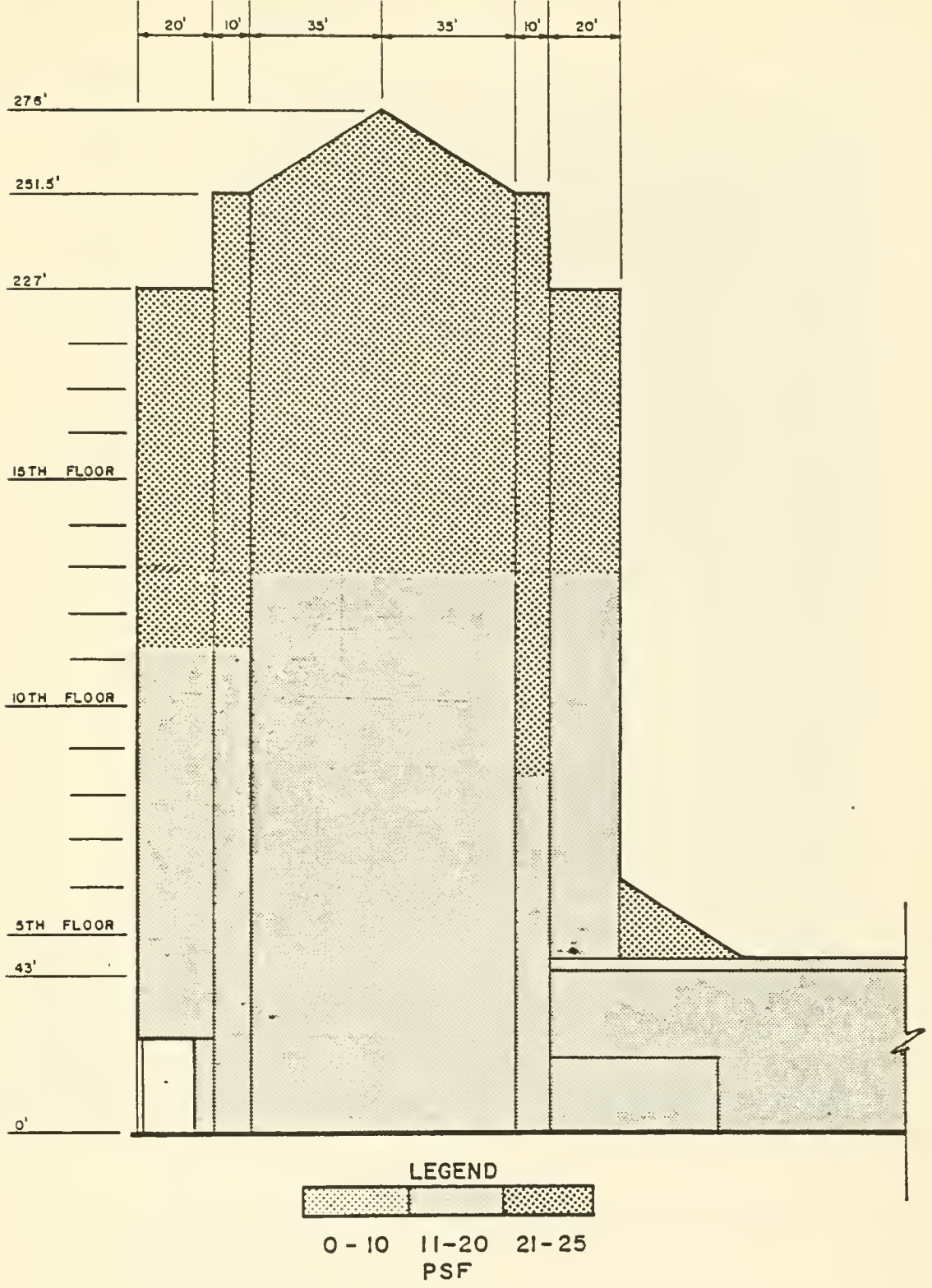


FIGURE 22
EXTERIOR PEAK PRESSURES
EAST ELEVATION

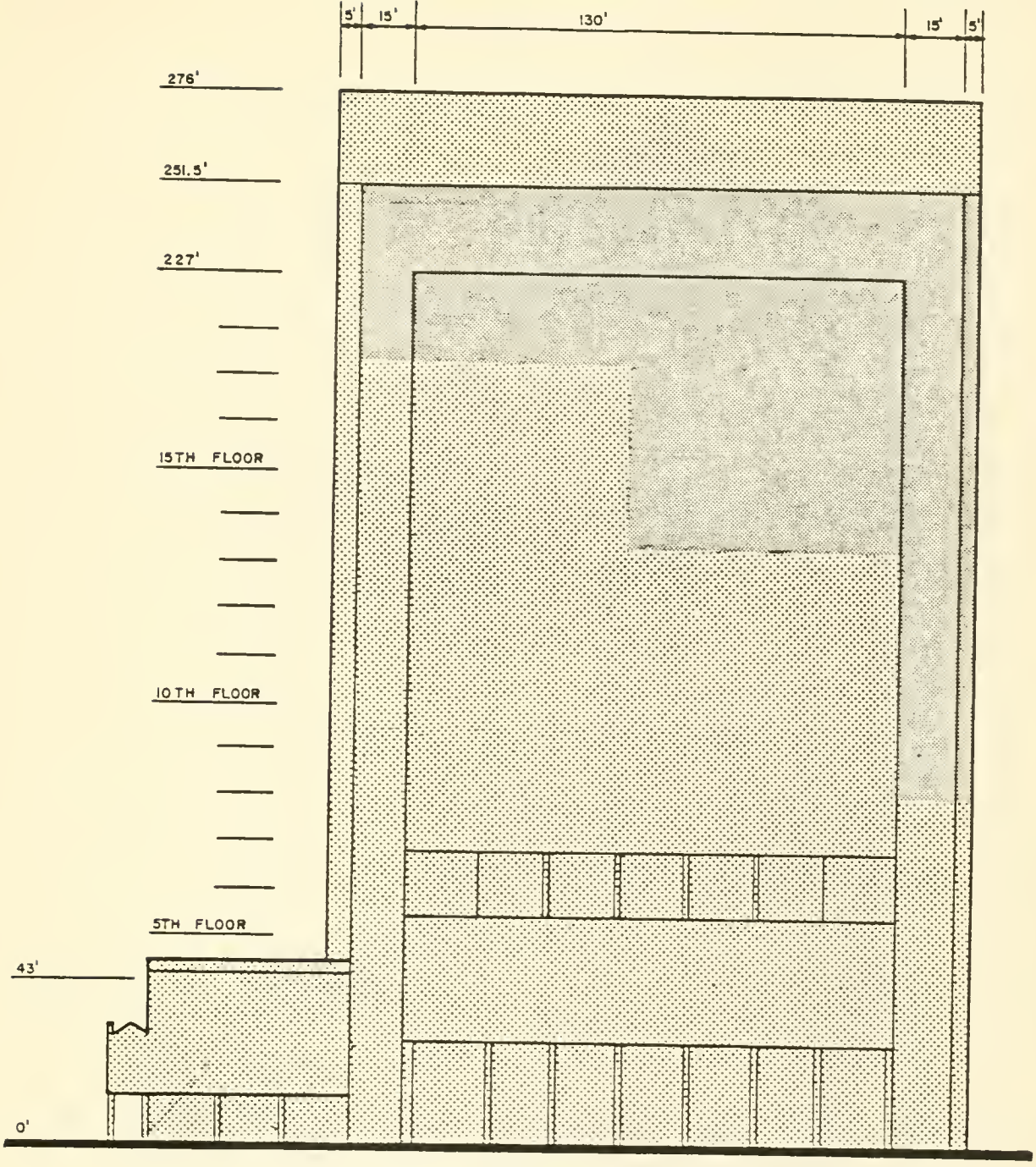


FIGURE 23
EXTERIOR PEAK PRESSURES
SOUTH ELEVATION

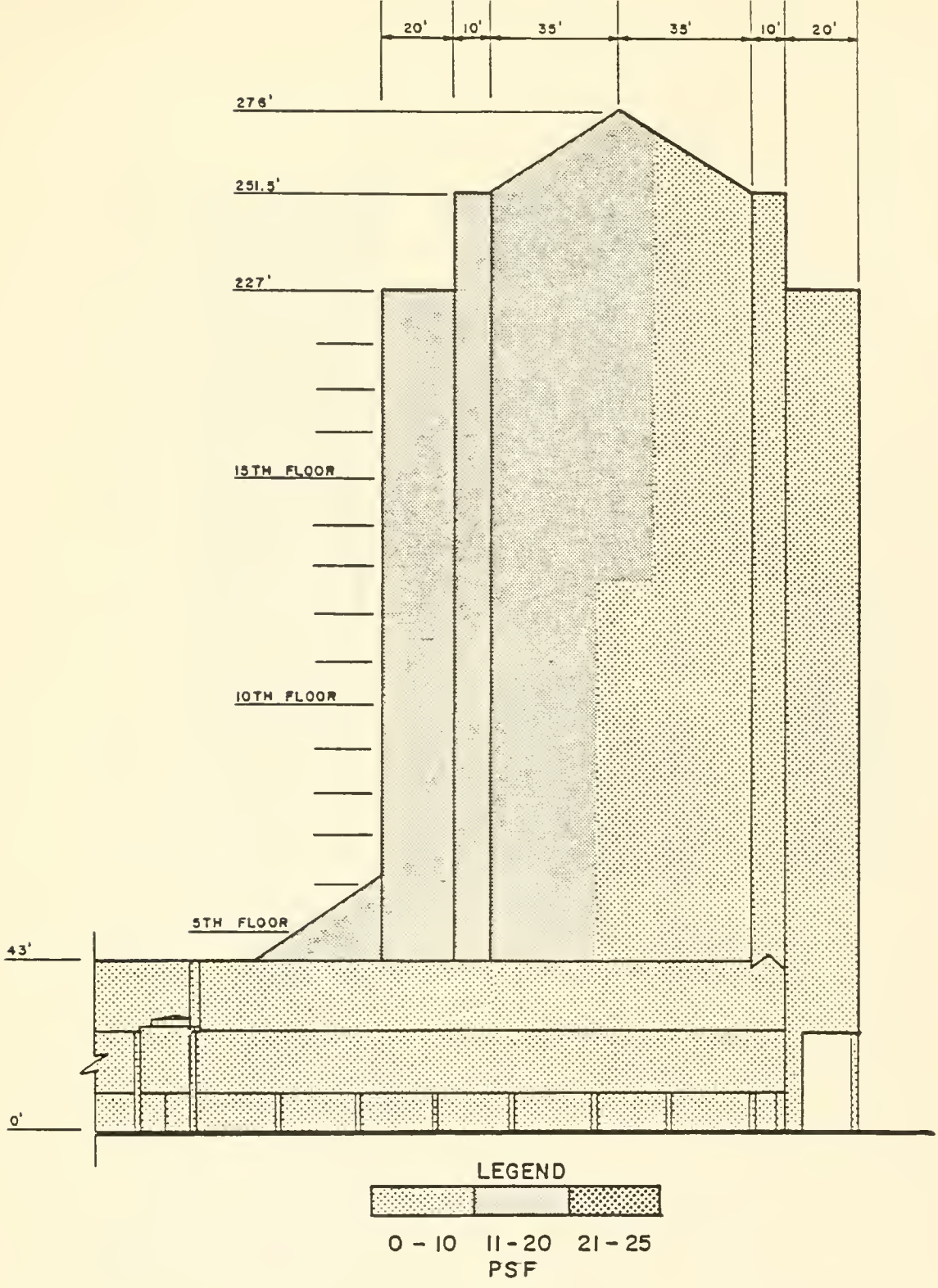


FIGURE 24
EXTERIOR PEAK PRESSURES
WEST ELEVATION

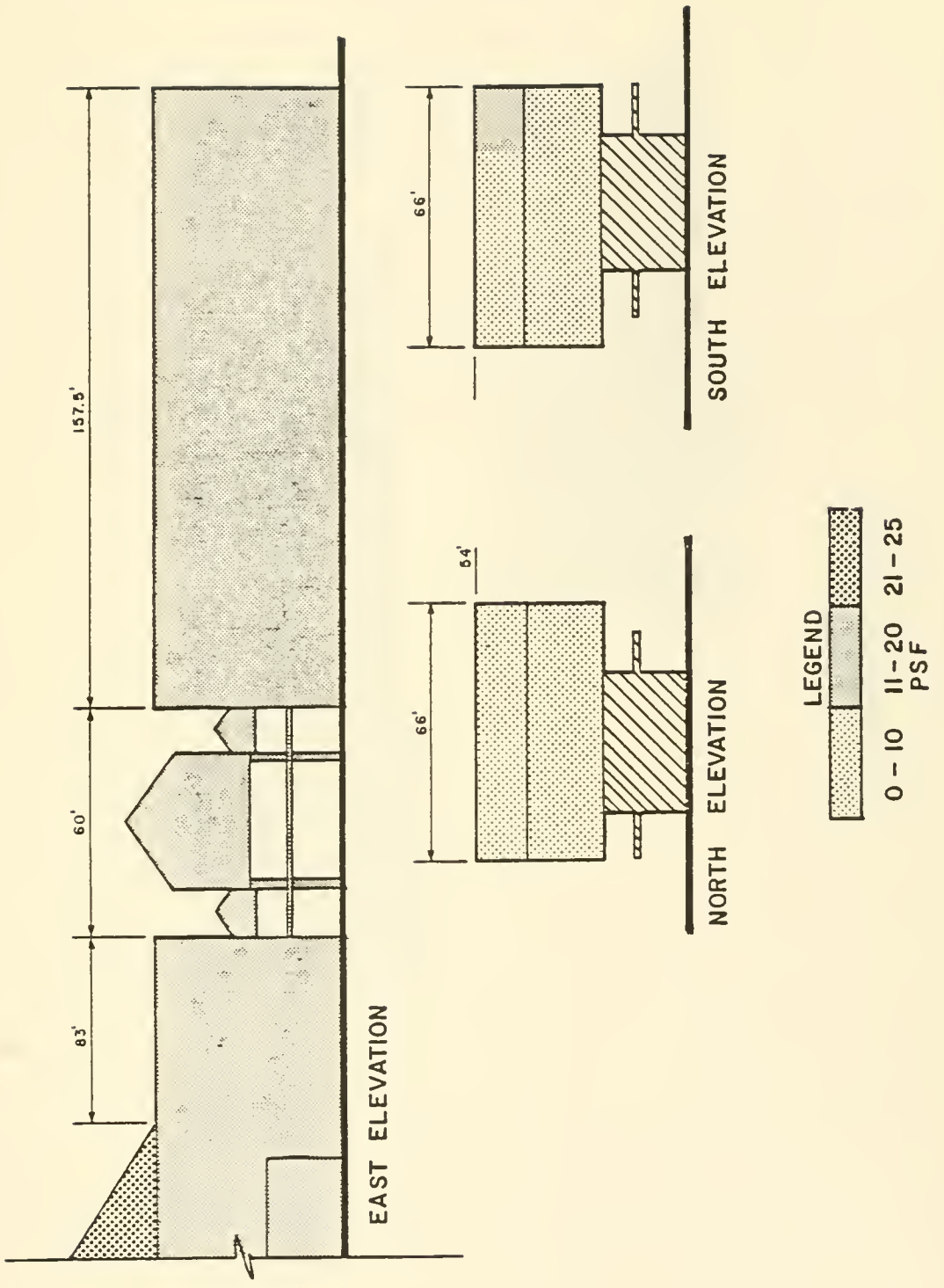


FIGURE 25
EXTERIOR PEAK PRESSURES
PODIUM ELEVATIONS

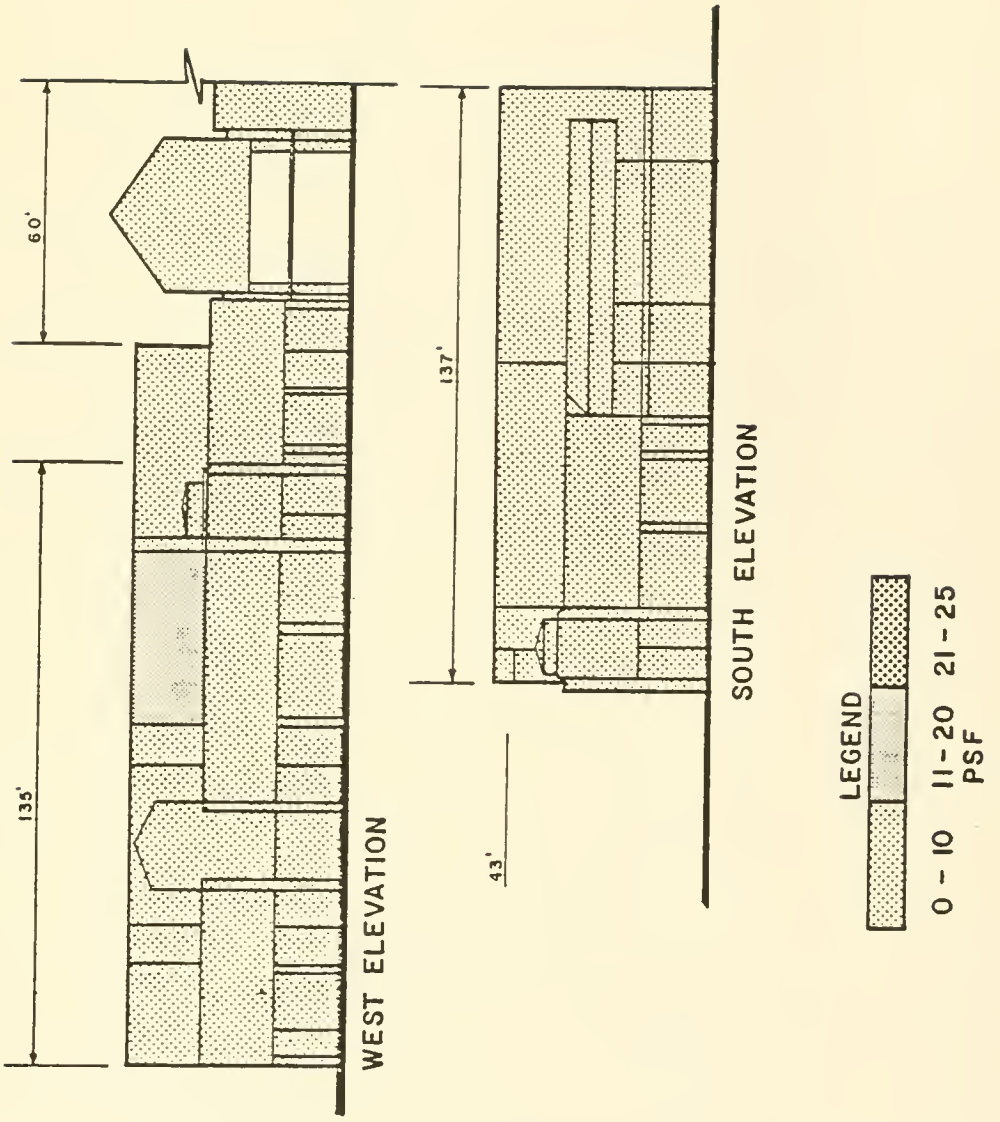
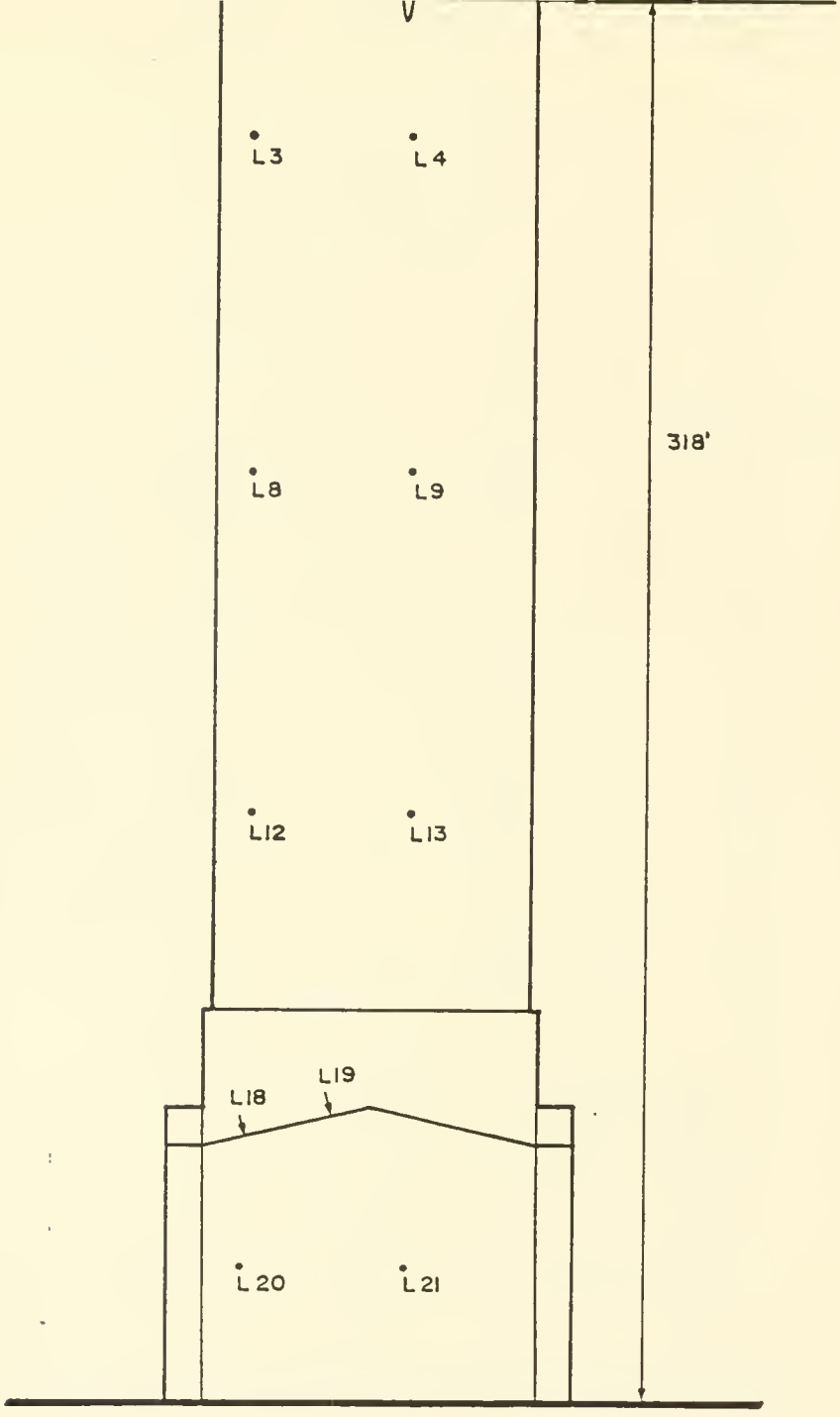
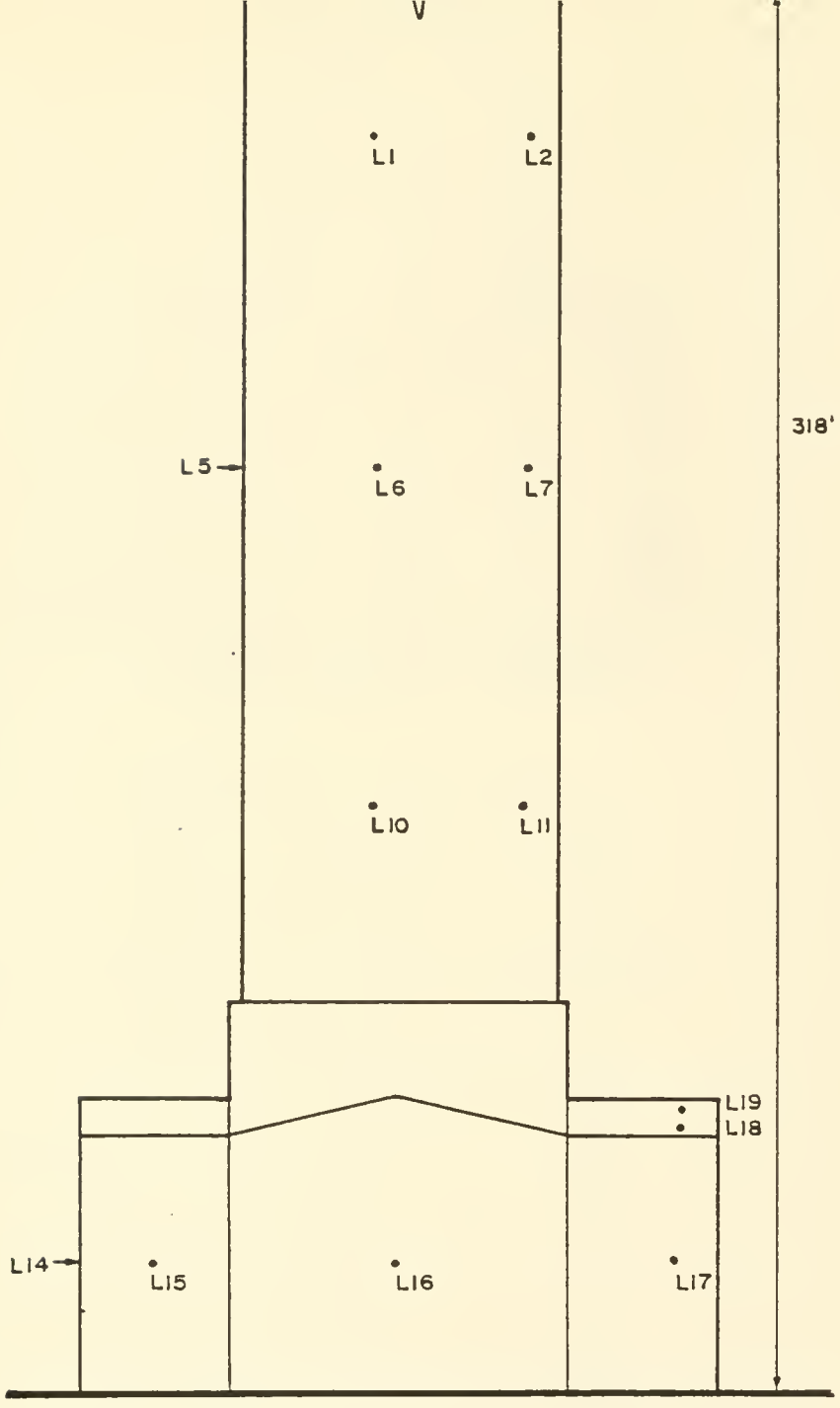


FIGURE 26
EXTERIOR PEAK PRESSURES
PODIUM ELEVATIONS



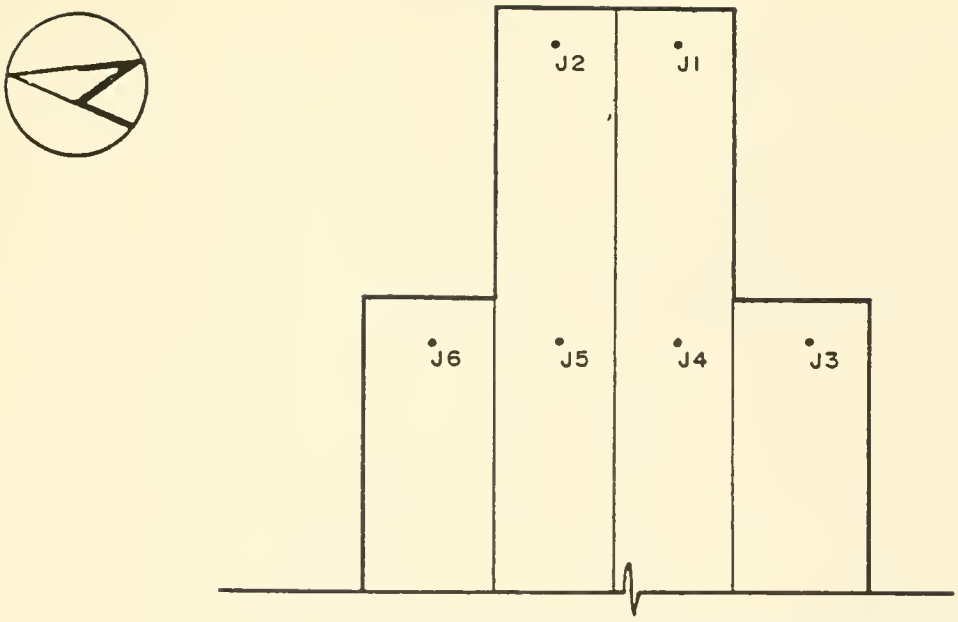
APPROX. SCALE 1:500

FIGURE 27
PRESSURE TAP LOCATIONS
U.S. CUSTOMS HOUSE - NORTH ELEVATION

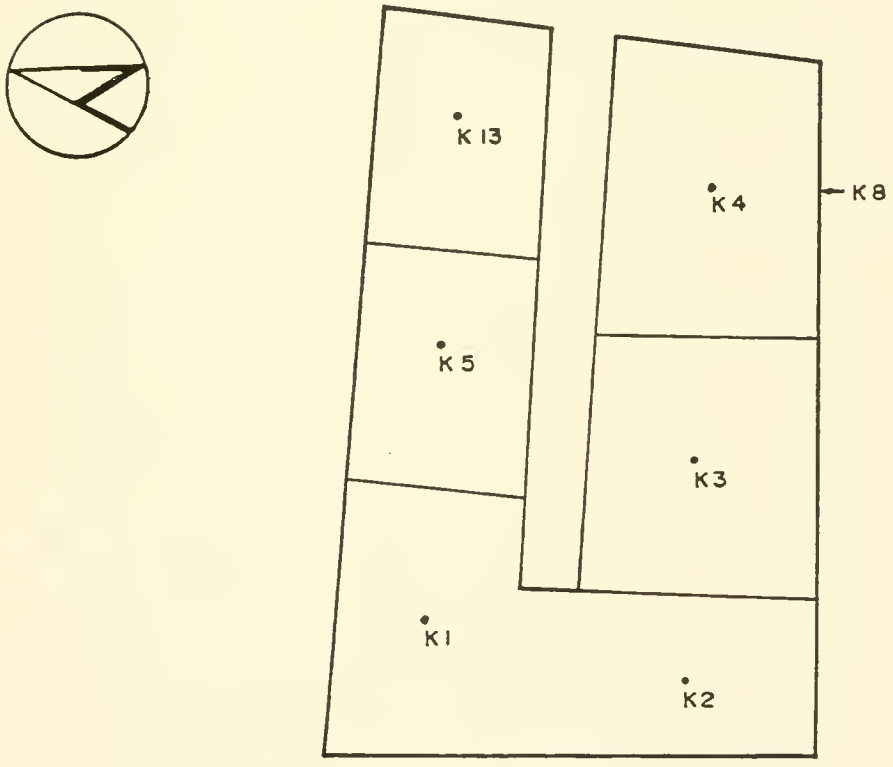


APPROX. SCALE 1:500

FIGURE 28
PRESSURE TAP LOCATIONS
U.S. CUSTOMS HOUSE - EAST ELEVATION



CENTRAL MARKET BUILDING



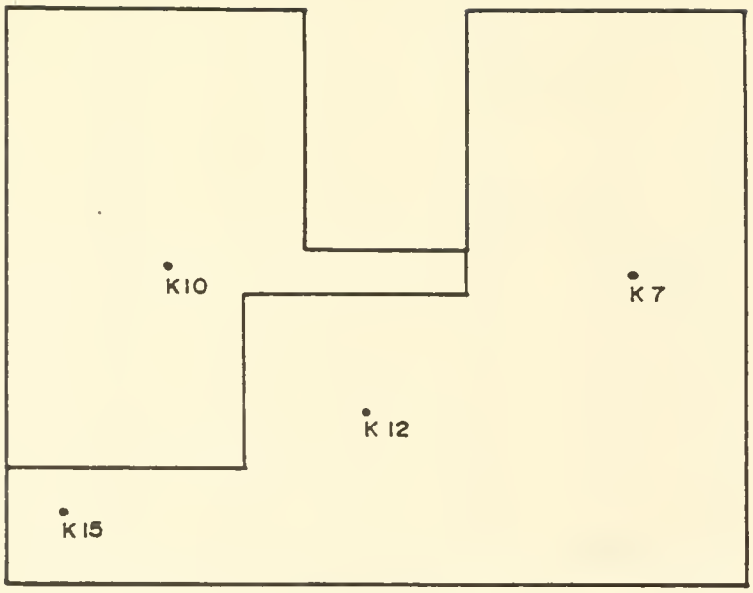
CHATHAM ROW BLOCK

APPROX. SCALE 1:500

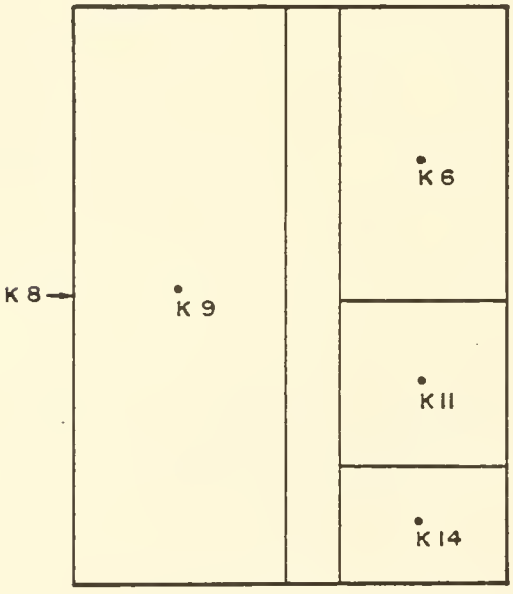
FIGURE 29

PRESSURE TAP LOCATIONS

ROOF PLANS



NORTH ELEVATION



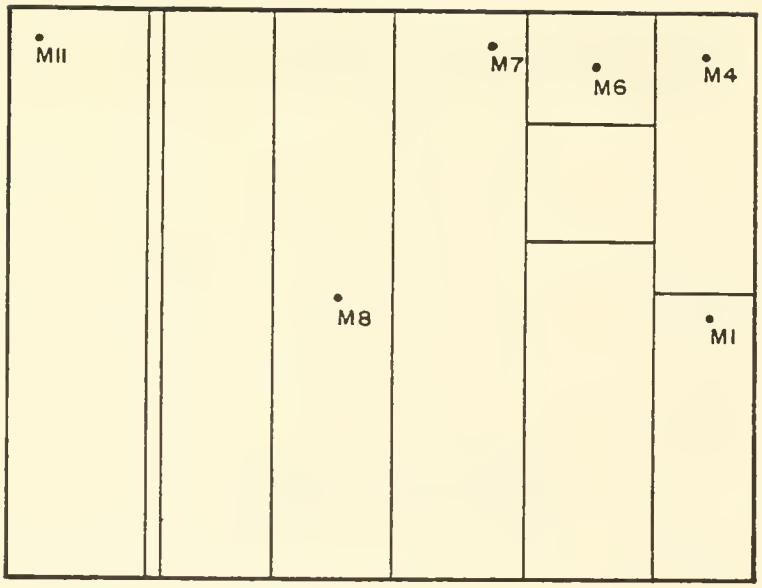
EAST ELEVATION

APPROX. SCALE 1:500

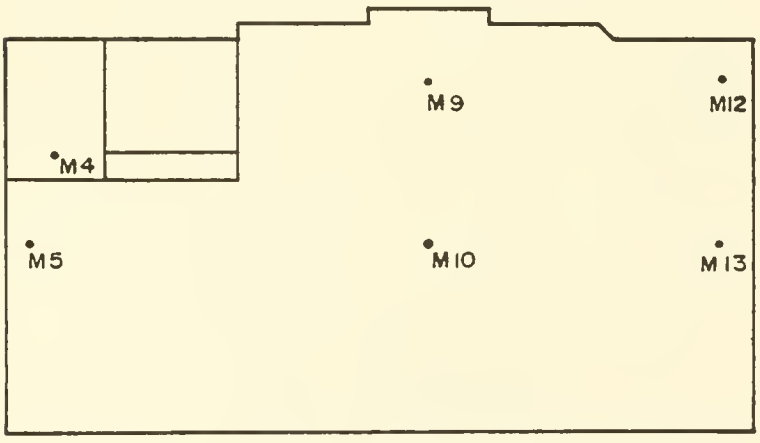
FIGURE 30

PRESSURE TAP LOCATIONS

CHATHAM ROW BLOCK



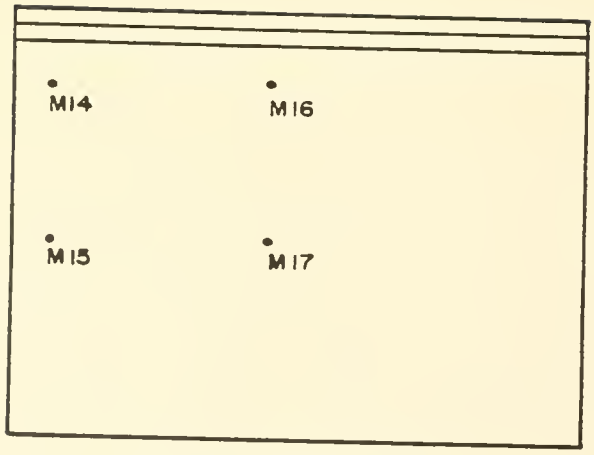
ROOF PLAN



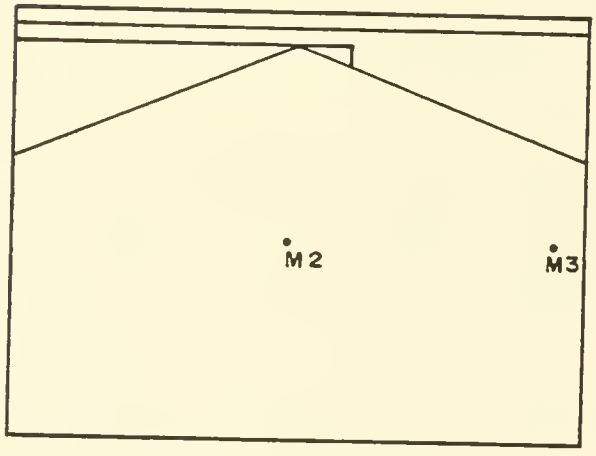
NORTH ELEVATION

APPROX. SCALE 1:500

FIGURE 31
PRESSURE TAP LOCATIONS
STATE STREET BLOCK



WEST ELEVATION

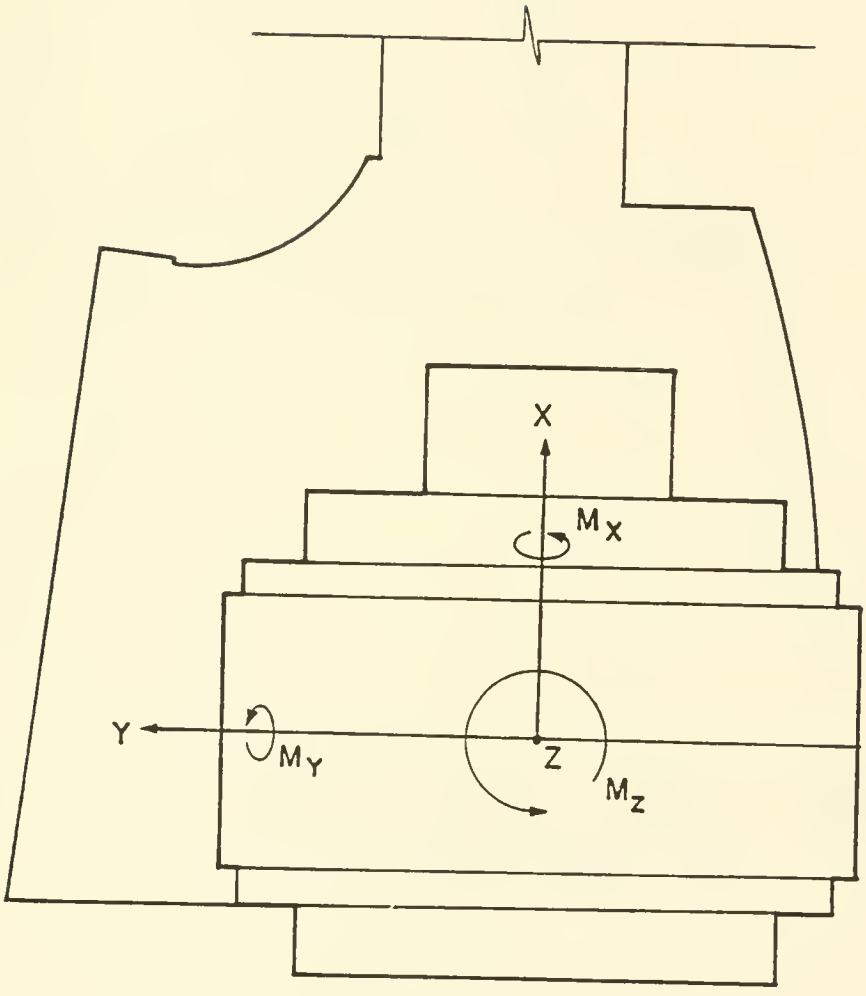


EAST ELEVATION

APPROX. SCALE 1:500

FIGURE 32

PRESSURE TAP LOCATIONS
STATE STREET BLOCK



NOTE: FORCES AND MOMENTS RELATED BY THE RIGHT-HAND RULE

FIGURE 33
COORDINATE SYSTEM
FOR STRUCTURAL LOAD CALCULATIONS

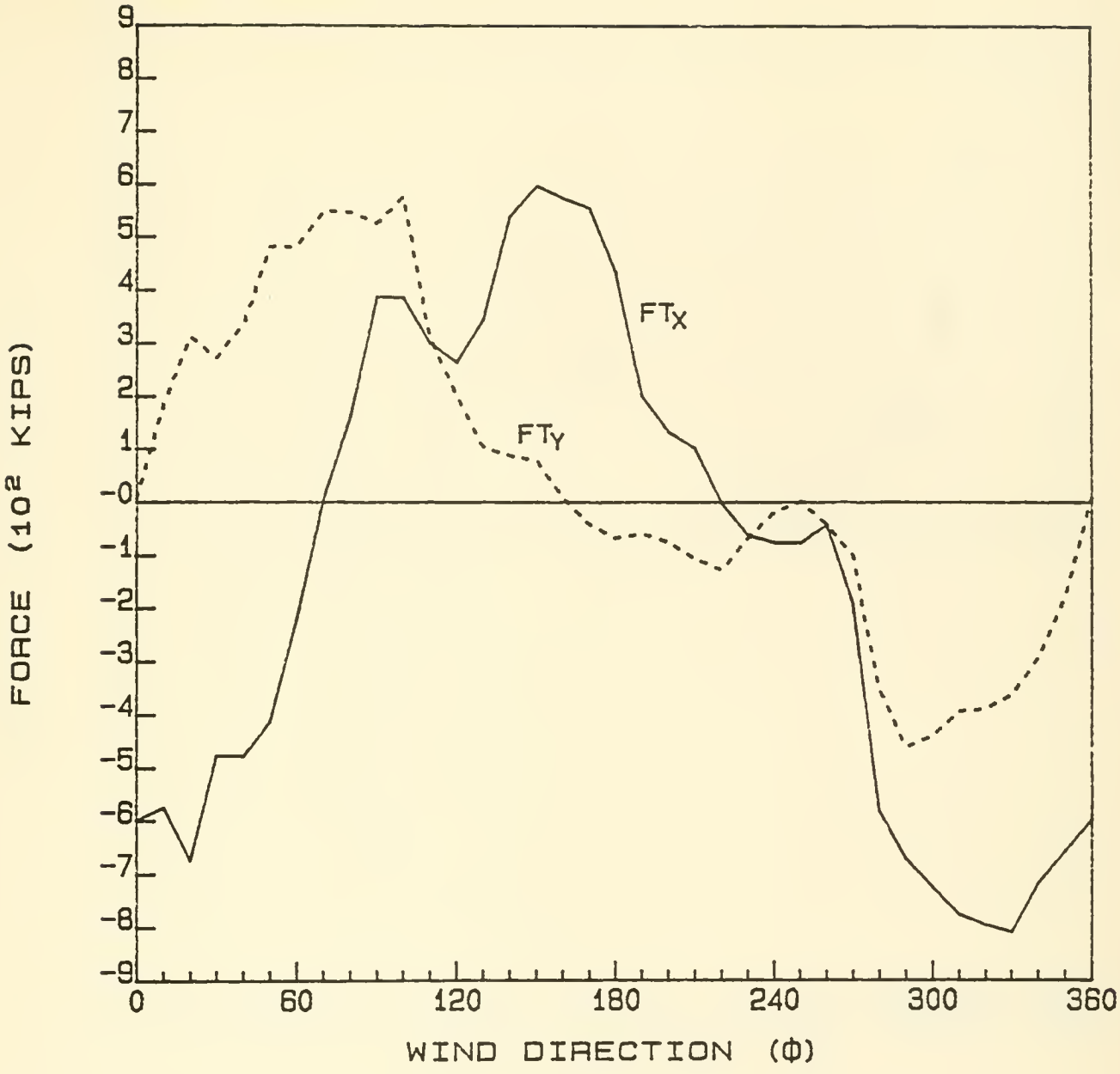


FIGURE 34

100 YEAR RETURN PERIOD
BASE SHEAR FORCES

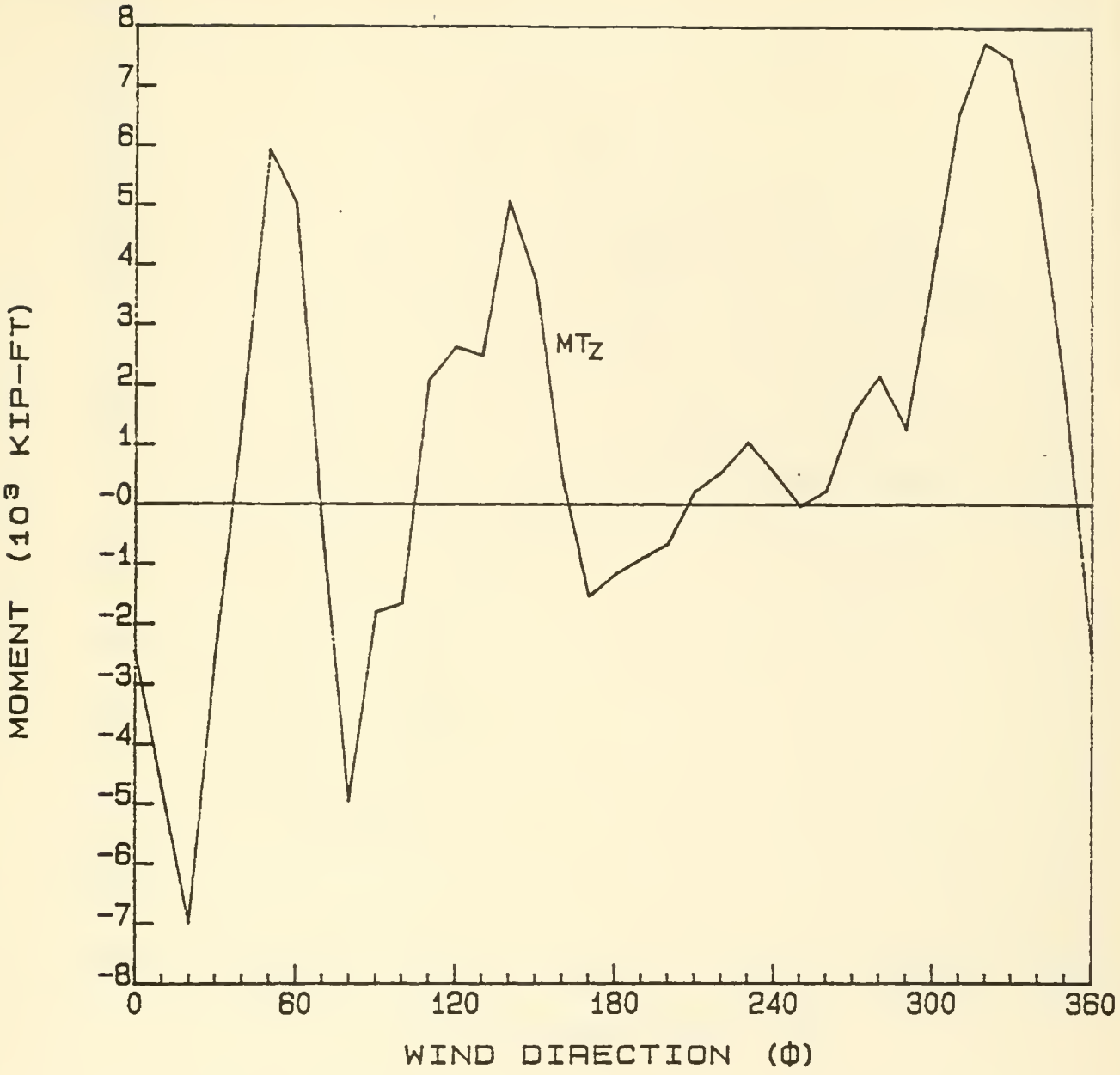


FIGURE 35

100 YEAR RETURN PERIOD
BASE TORSIONAL MOMENT

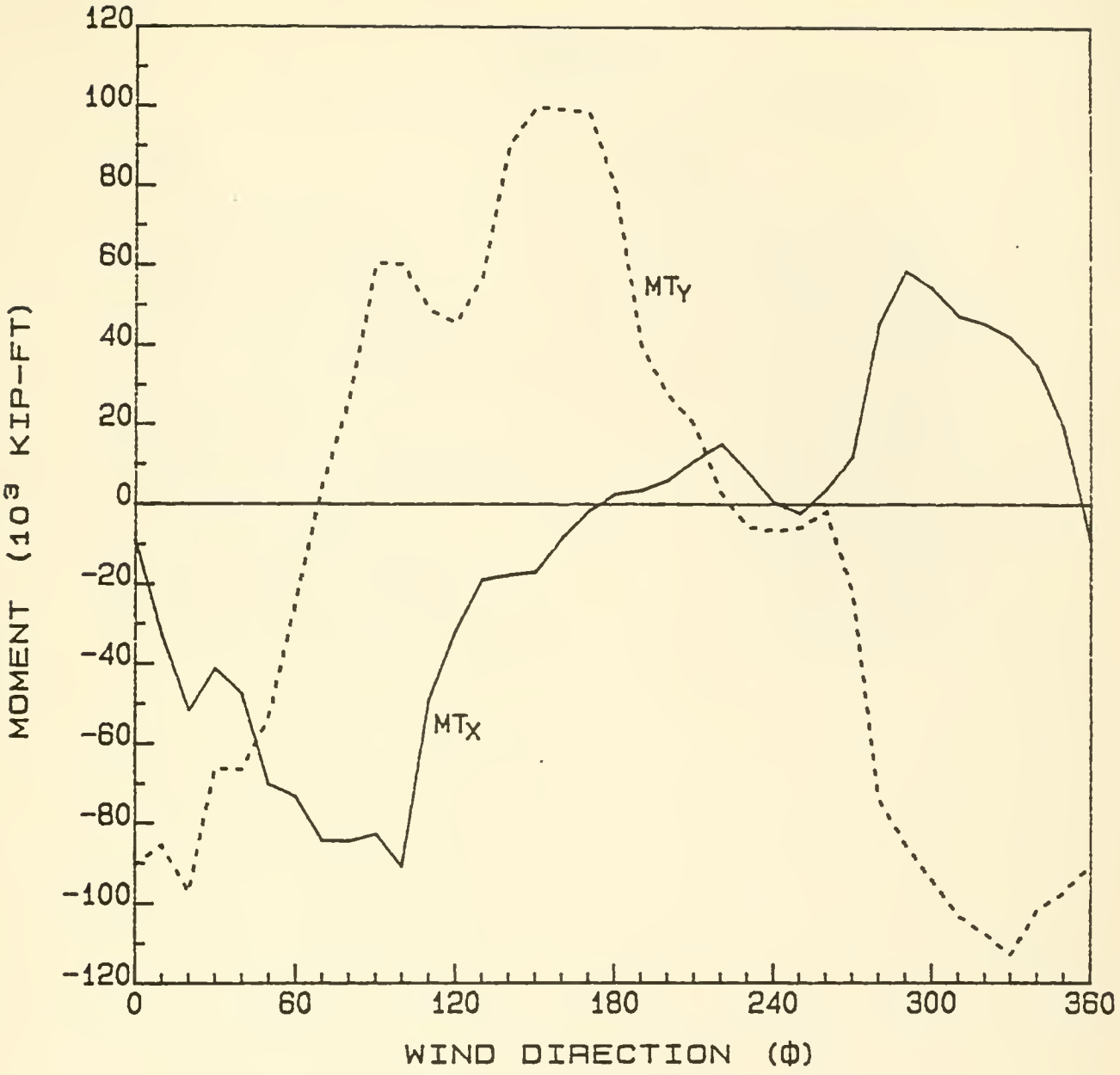


FIGURE 36

100 YEAR RETURN PERIOD
BASE OVERTURNING MOMENTS

APPENDIX A

Drawings used to Construct the Study Model

NAME	DATE
Topographic Plan	Revised May 3, 1982
First Floor Plan	May 26, 1982
Partial 2nd Floor Plan	May 26, 1982
Typ 4th - 18th Floor Plan	May 26, 1982
19th & 20th Floor Plan	May 26, 1982
Roof Plan	May 26, 1982
Commercial St. Elevation	May 26, 1982
East Elevation	May 26, 1982
State St. Elevation	May 26, 1982
Section/North Elevation	May 26, 1982
North-South Building Section	May 26, 1982

APPENDIX B

WIND TUNNEL SIMULATION OF THE ATMOSPHERIC BOUNDARY LAYER

The properties of the atmospheric boundary layer which must be simulated in wind tunnel tests are the vertical profiles of mean velocity and longitudinal turbulence intensity. In order to create the boundary layer simulation of these parameters, a group of spires are placed at the inlet of the wind tunnel. In addition, surface roughness elements cover the floor area upwind of the test model. This permits fine tuning of the low level wind gusts.

Due to the differences in terrain roughness two different upwind fetches were used to simulate winds approaching the study site. The wind profiles used are described in the ANSI Building Code. ANSI exposure C was simulated for wind directions where the terrain was substantially flat and open such as open water or level grassland. ANSI exposure B was simulated where the terrain could be considered suburban or tree covered.

For this study site the two wind simulations were employed as follows:

Type	Azimuth
Exposure C	50° - 140°
Exposure B	all others

These simulations produce velocity profiles with height of the form: $\frac{U}{U_g} = \left(\frac{Z}{Z_g}\right)^{\alpha}$

where U = wind speed at height Z

U_g = wind speed at gradient height Z_g

α = .14 for exposure C

α = .25 for exposure B

The gradient height, Z_g, is the height above the surface of the earth where the wind speed no longer increases with height. The gradient height varies from approximately 1200 ft. for exposure B to about 1000 ft. for exposure C in strong winds.

Figures B1 and B2 illustrate the comparison between the velocity profiles measured in the tunnel and the ANSI power law distribution being modelled. Figures B3 and B4 illustrate the corresponding distribution with height of measured longitudinal turbulence intensity ratio u'/U, where u' is the root-mean-square of the longitudinal velocity fluctuations. This ratio can be interpreted as a description of the magnitude of the gust activity near the site. In addition to the turbulence intensity the length scale of the turbulence eddies must also be correct in relation to the model scale. Measurements of the power spectrum of the longitudinal turbulence have shown that the length scale of the turbulence in the two wind simulations described here is at the correct 1:500 scale.

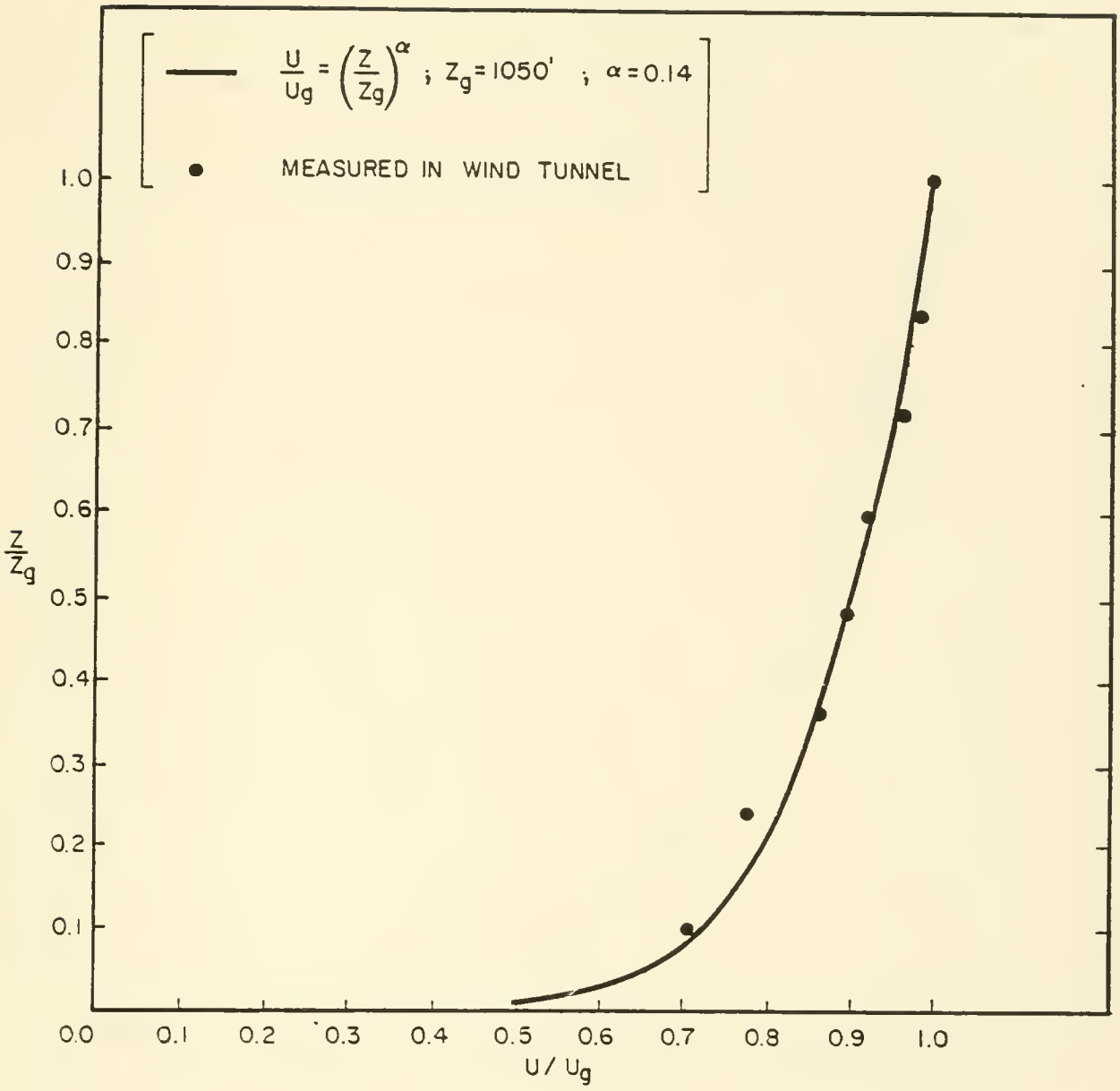


FIGURE BI

SIMULATED MEAN VELOCITY PROFILE

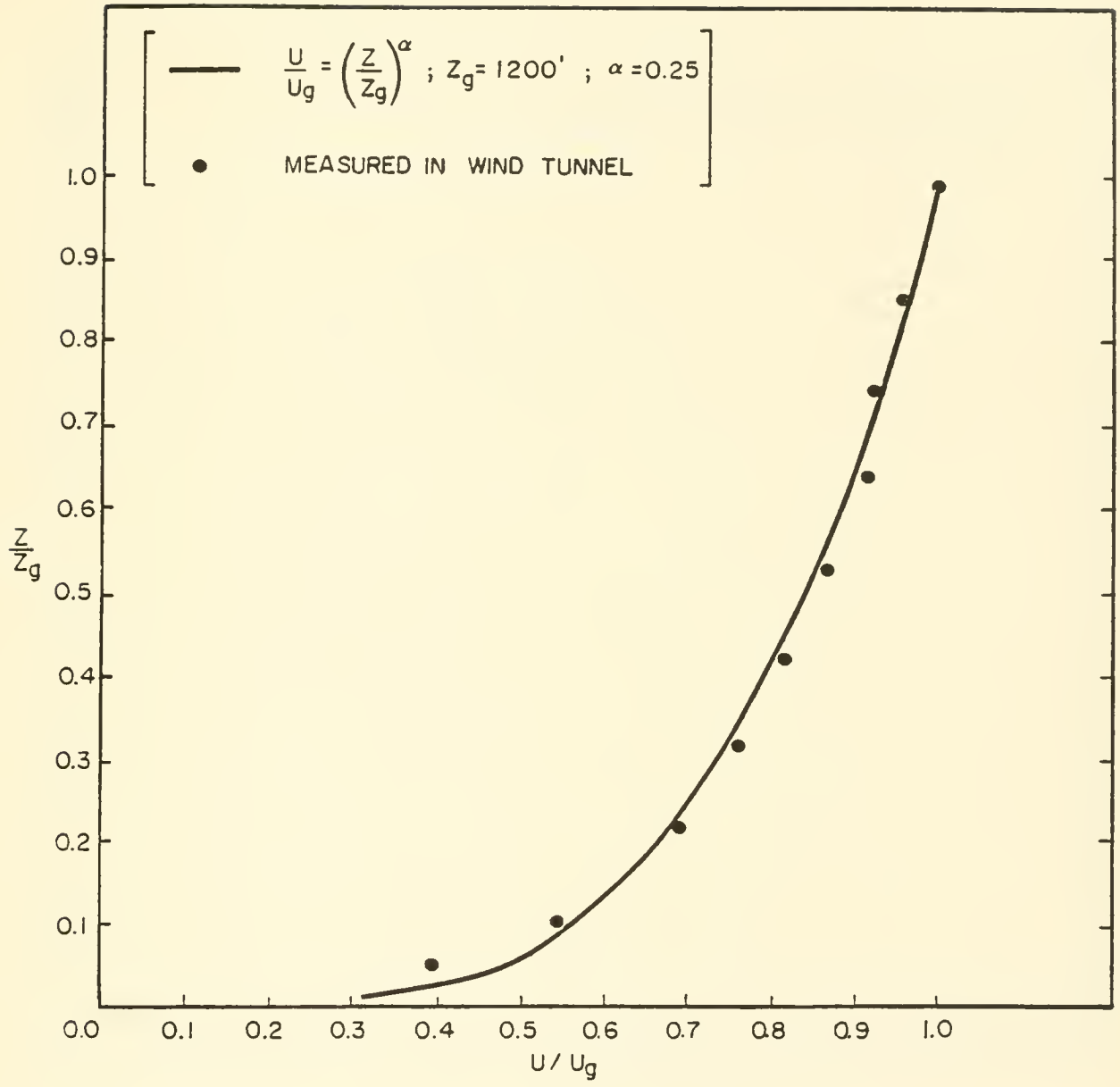


FIGURE B2
SIMULATED MEAN VELOCITY PROFILE

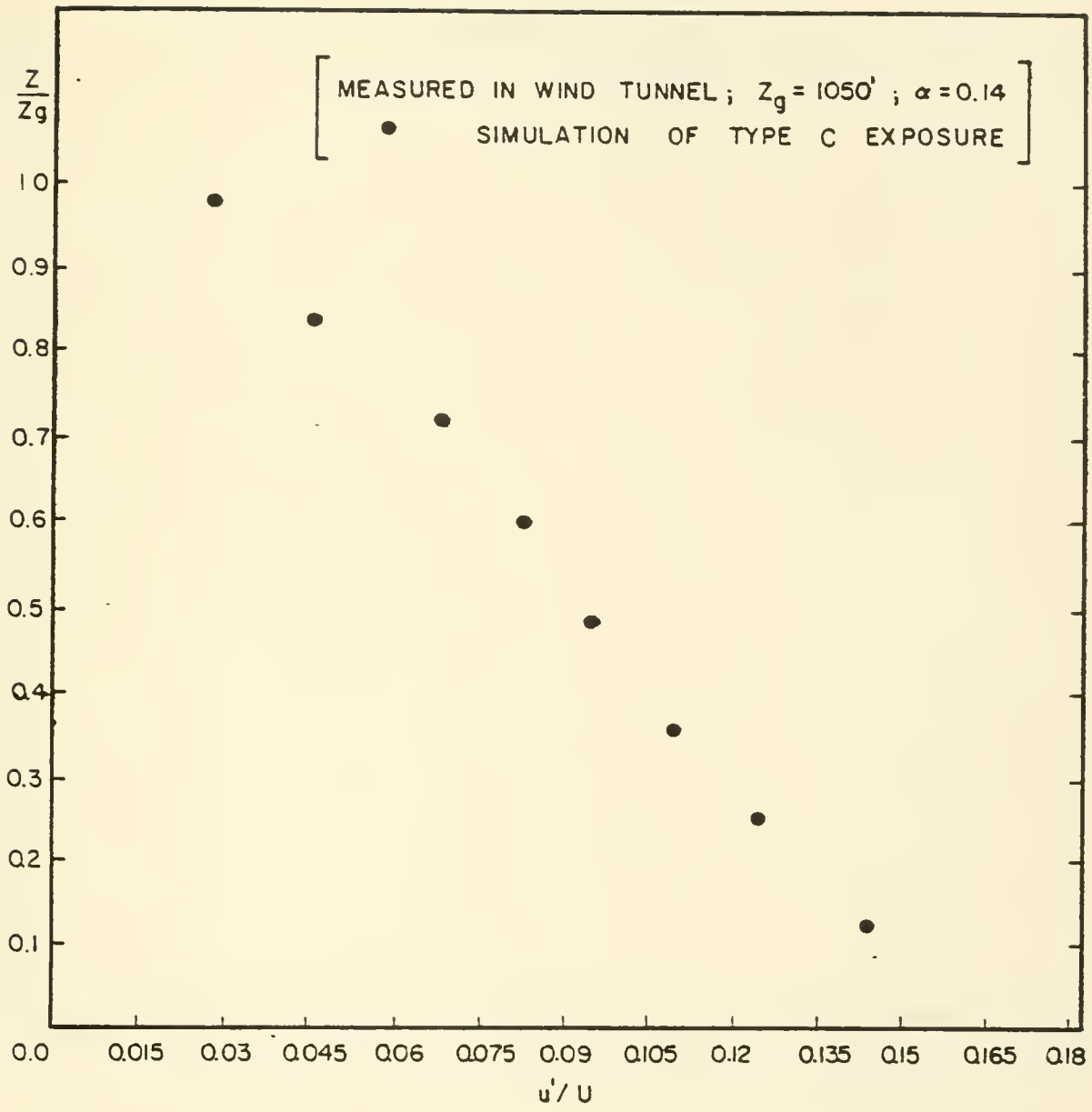


FIGURE B3
SIMULATED LONGITUDINAL TURBULENCE INTENSITY PROFILE

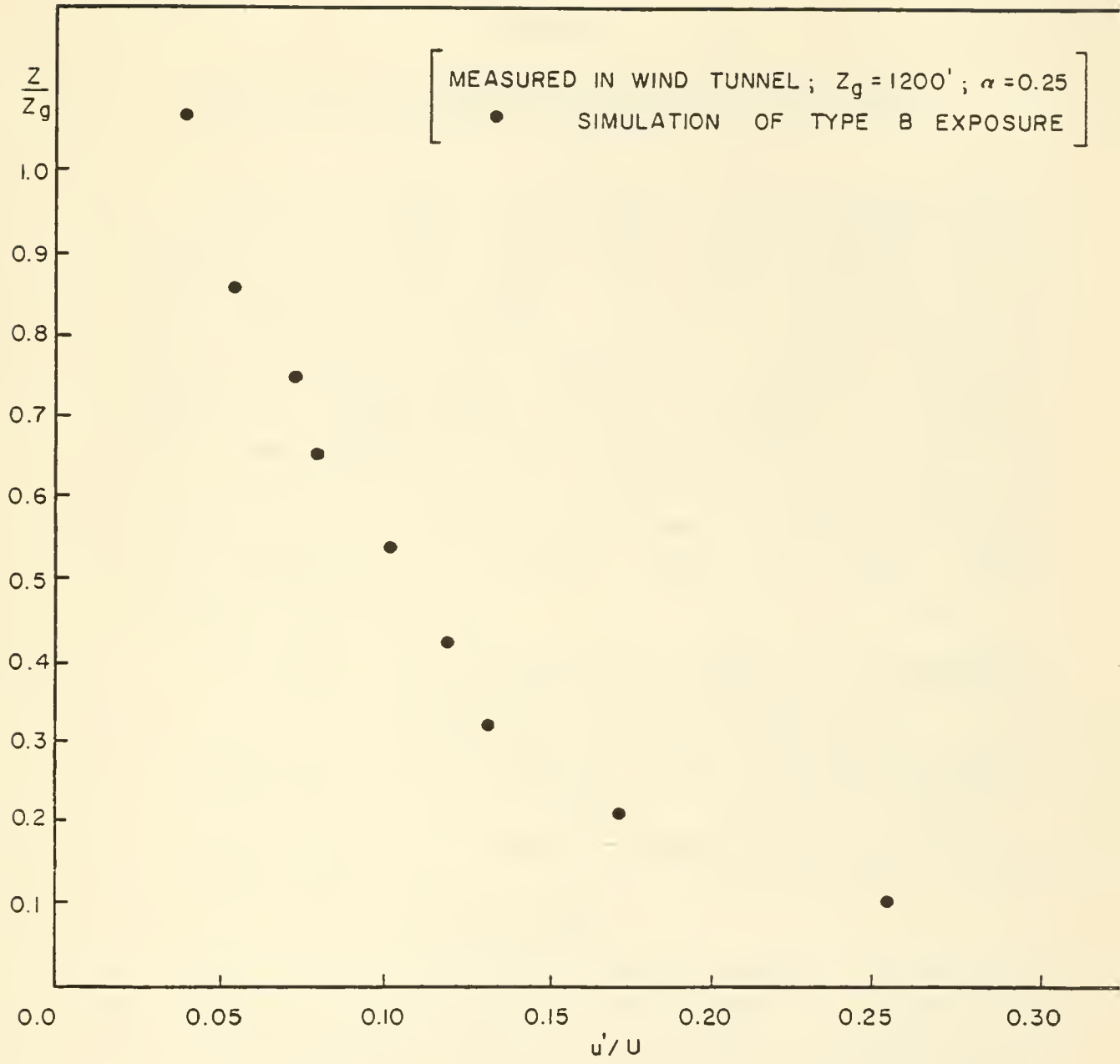


FIGURE B4
SIMULATED LONGITUDINAL TURBULENCE INTENSITY PROFILE

APPENDIX C

TECHNIQUE OF INTEGRATING LOCAL WIND STATISTICS WITH THE DISTRIBUTION OF PRESSURE COEFFICIENTS ON A STRUCTURE

The wind climate at the test site was divided into two categories: normal wind events, and hurricanes. The statistics of normal wind events were determined from local meteorological records. Since there are not enough local data on hurricanes however, the statistics of hurricane winds were determined from a computer simulation. Approximately 10,000 hurricanes and tropical storms were simulated with centres passing within 150 miles of the test site. The essential variables required to describe the wind structure of each of these hurricanes were determined by computer using the Monte Carlo Technique (see references 2 and 3). They were as follows:

(1) Δp - the difference between the atmospheric pressure at the centre of the storm, and that outside of the storm.

(2) R - the distance from the storm's center to the region of maximum wind speed.

(3) V_T - the speed of translation of the storm.

(4) d - the distance of the test site from the storm track.

(5) θ - the angle of the storm track with respect to true north.

To model the weakening of hurricanes as they pass over land, Δp was decayed exponentially with time once a storm reached land.

The normal wind statistics for the test site were reduced to probabilities of occurrence of various wind speeds for 16 wind direction sectors ranging around the compass. These data were then interpolated to 36 sectors. The hurricane statistics were determined for 36 sectors directly. The two sets of statistics were then

independently fitted to Weibull distributions, which have the form:

$$P(U_o,\theta) = A(\theta)e^{-(U_o/C(\theta))^{K(\theta)}} \quad (1)$$

where $P(U_o, \theta)$ is the probability that a mean hourly wind speed will be greater than U_o, coming from a direction within the sector given by $\theta \pm 5^o$ (θ is expressed in degrees from true North). $A(\theta)$, $C(\theta)$, and $K(\theta)$ are constants which depend upon the sector, θ, and are called the Weibull coefficients.

The two Weibull distributions (one for normal winds and the other for hurricane winds) were combined as follows:

$$P(U_o,\theta) = a_1 A_1(\theta)e^{-(U_o/C_1(\theta))^{k_1(\theta)}} + a_2 A_2(\theta)e^{-(U_o/C_2(\theta))^{k_2(\theta)}} \quad (2)$$

where a_1 is the average fraction of hours in the year during which normal winds occurred, a_2 is the fraction of hours during which hurricane winds occurred. $A(\theta)$, $C(\theta)$ and $K(\theta)$ are the Weibull coefficients where the subscript 1 refers to normal winds, and the subscript 2 refers to hurricane winds.

Figure C1 shows curves of wind speed, U_o, plotted against $P(U_o, \theta)$ on the radial axes for the study site. This figure gives an indication of which directions various wind speeds are most likely to come from. These wind speeds are at gradient height.

In order to derive the estimates of pressures and suctions which are likely to occur on a full scale structure, the following equation was used:

$$\frac{1}{R(p)} = \sqrt{2}\,|\dot{\bar{u}}|_1 \sum_{\theta}\left[\frac{a_1 A_1(\theta)}{c_1(\theta)}\left(\frac{U}{c_1(\theta)}\right)^{K_1(\theta)-1} \exp\left\{\left(\frac{U}{c_1(\theta)}\right)^{K_1(\theta)}\right\}\right] \quad (3)$$

$$+\sqrt{2}\,|\dot{\bar{u}}|_2 \sum_{\theta}\left[\frac{a_2 A_2(\theta)}{c_2(\theta)}\left(\frac{U}{c_2(\theta)}\right)^{K_2(\theta)-1} \exp\left\{\left(\frac{U}{c_2(\theta)}\right)^{K_2(\theta)}\right\}\right]$$

where R(p) is the return period, i.e. the average time in years between events in which the pressure/suction p is exceeded. U is given by $U = \sqrt{2P/(\rho C_p)}$, where ρ is the density of air, and C_p is the peak pressure coefficient derived from the wind tunnel tests. $|\dot{\bar{u}}|$ is the mean absolute rate of change of hourly wind speed determined from the wind statistics for the study site. The subscripts are as before. [Equation (3) was derived by resolving the wind data into independent wind events, based on the mean number of independent events per year (see reference 1)].

Return periods were calculated for a range of pressures and suctions at each tap location. Interpolation was then used to determine pressures and suctions for selected return periods.

Reference pressures were determined for various return periods using equation (3) with $C_p = 1$ for all directions. These reference values are given in Table C-1.

References:

(1) Gomes, L. and B. J. Vickery, 1977: On the distribution of extreme wind speeds from the parent distribution, J. Ind. Aero., 2(1977), pp.21-36.

(2) Russell, L. R., 1971: Probability for hurricane effects, ASCE Journal, Waterways, Harbours and Coastal Engineering Division, February.

(3) Trygvasson, B.V., 1979: Computer Simulation of Tropical Cyclone Wind Effects for Australia, James Cook University of Queensland wind engineering report 2/79.

TABLE C-1

Reference Pressures for Boston

Return Period (years)	Pressure, P (psf)	$v = 19.76\sqrt{p}$ (mph)
25	22	93
50	25	99
100	28	105

years of Data from Logan International Airport: 1945-1980

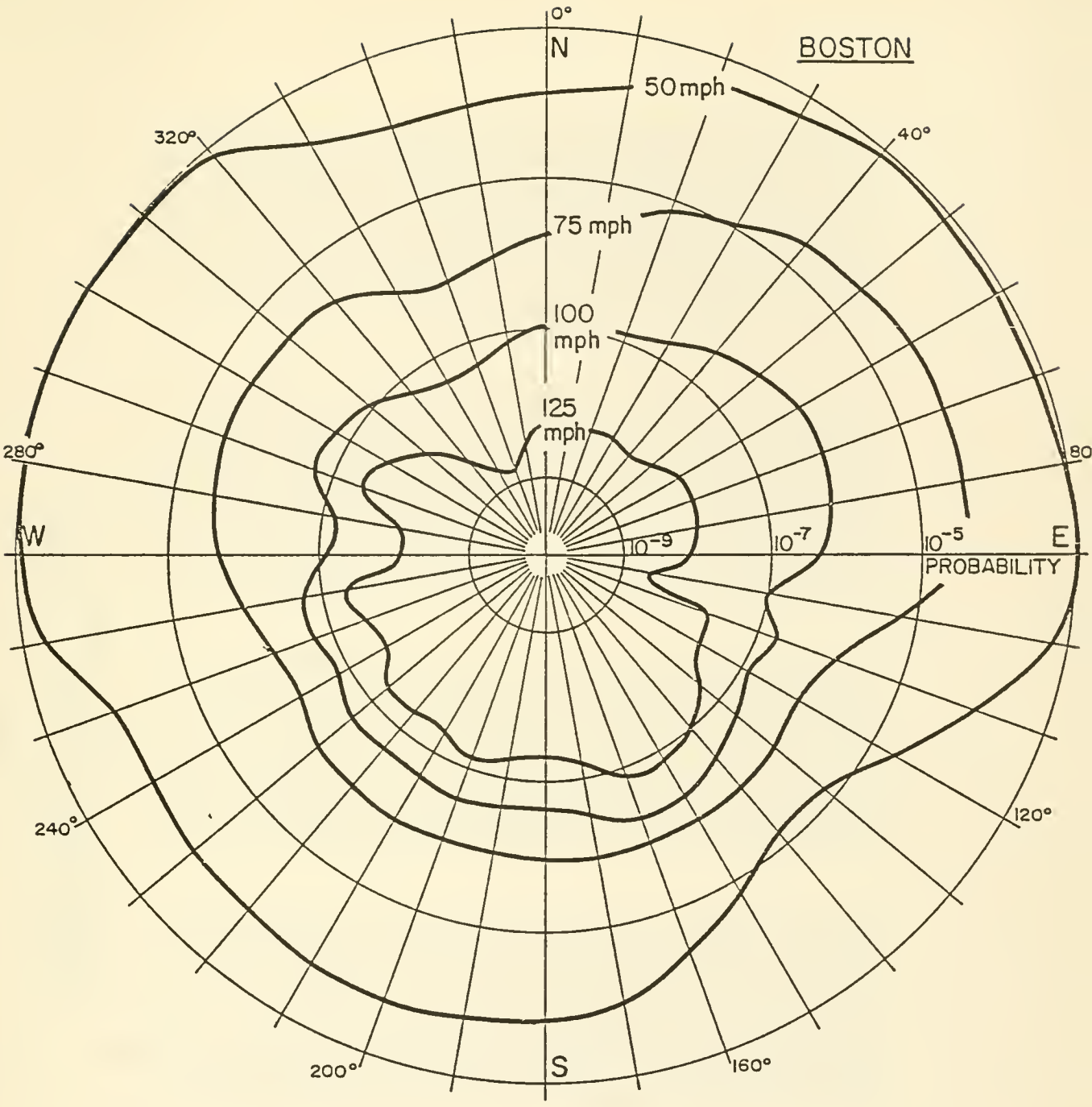


FIGURE CI

PROBABILITIES OF EXCEEDING VARIOUS HOURLY WINDSPEEDS IN 10° SECTORS AT GRADIENT HEIGHT

APPENDIX D

MARKETPLACE CENTER – BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # A 1 MEAN	MIN	MAX	RMS	TAP # A 2 MEAN	MIN	MAX	RMS	TAP # A 3 MEAN	MIN	MAX	RMS	TAP # A 4 MEAN	MIN	MAX	RMS	TAP # A 5 MEAN	MIN	MAX	RMS
10	-0.27	-0.31	0.07	0.10	-0.08	-0.47	0.16	0.07	0.20	-0.25	1.00	0.13	0.19	-0.36	0.96	0.15	0.12	-0.29	0.72	0.14
20	-0.18	-0.73	0.03	0.08	0.04	-0.29	0.31	0.07	0.27	-0.24	0.89	0.13	0.22	-0.47	0.71	0.13	0.03	-0.34	0.64	0.11
30	-0.08	-0.46	0.08	0.05	0.07	-0.25	0.42	0.08	0.14	-0.43	0.78	0.14	0.12	-0.37	0.68	0.11	0.06	-0.45	0.51	0.10
40	-0.04	-0.27	0.14	0.04	0.10	-0.19	0.54	0.09	0.04	-0.64	0.63	0.16	0.05	-0.59	0.45	0.10	0.05	-0.25	0.40	0.07
50	-0.07	-0.26	0.07	0.04	0.17	-0.14	0.53	0.08	-0.27	-0.85	0.25	0.13	-0.16	-0.75	0.27	0.10	0.07	-0.37	0.36	0.06
60	-0.04	-0.22	0.11	0.04	0.20	-0.15	0.50	0.08	-0.45	-0.92	-0.08	0.09	-0.31	-1.01	0.04	0.10	0.00	-0.39	0.39	0.09
70	-0.07	-0.26	0.09	0.04	0.22	-0.24	0.63	0.09	-0.43	-0.93	-0.02	0.11	-0.39	-1.29	0.02	0.12	-0.15	-0.58	0.39	0.10
80	-0.09	-0.34	0.08	0.04	0.20	-0.18	0.54	0.09	-0.32	-0.71	-0.03	0.08	-0.32	-1.11	0.05	0.09	-0.23	-1.16	0.20	0.11
90	-0.13	-0.40	0.06	0.05	0.18	-0.47	0.57	0.10	-0.34	-0.67	-0.09	0.08	-0.33	-0.71	0.03	0.08	-0.30	-0.81	0.08	0.11
100	-0.21	-0.61	0.01	0.07	0.17	-0.45	0.51	0.09	-0.30	-0.73	-0.04	0.08	-0.28	-0.63	-0.02	0.07	-0.27	-0.82	0.10	0.11
110	-0.21	-0.50	-0.01	0.06	0.10	-0.38	0.48	0.11	-0.30	-0.77	-0.01	0.09	-0.27	-0.75	0.05	0.08	-0.24	-0.91	0.13	0.09
120	-0.23	-0.72	-0.06	0.06	-0.02	-0.40	0.48	0.12	-0.28	-0.71	0.03	0.08	-0.24	-0.70	0.07	0.08	-0.25	-0.83	0.10	0.08
130	-0.27	-0.81	0.04	0.09	-0.16	-0.86	0.45	0.12	-0.28	-0.63	-0.07	0.06	-0.27	-0.59	-0.05	0.06	-0.23	-0.49	-0.04	0.05
140	-0.39	-1.10	-0.03	0.12	-0.33	-1.12	0.21	0.13	-0.32	-0.79	-0.01	0.08	-0.31	-1.01	-0.10	0.07	-0.30	-0.69	-0.05	0.06
150	-0.36	-1.01	0.04	0.11	-0.30	-0.74	0.15	0.10	-0.25	-0.66	-0.05	0.06	-0.26	-0.58	-0.09	0.06	-0.26	-0.75	-0.07	0.05
160	-0.46	-1.06	0.11	0.12	-0.34	-1.23	0.02	0.12	-0.27	-0.69	-0.09	0.06	-0.27	-0.53	-0.06	0.05	-0.27	-0.53	-0.11	0.05
170	-0.43	-1.19	0.15	0.14	-0.42	-1.36	0.08	0.14	-0.25	-0.75	-0.06	0.07	-0.26	-0.53	-0.05	0.05	-0.26	-0.70	-0.05	0.06
180	-0.38	-1.00	0.08	0.12	-0.36	-1.39	0.05	0.14	-0.23	-0.71	-0.03	0.06	-0.23	-0.58	-0.05	0.05	-0.24	-0.58	0.01	0.05
190	-0.25	-0.99	0.15	0.10	-0.24	-0.78	0.05	0.08	-0.19	-0.50	-0.02	0.05	-0.18	-0.55	0.04	0.06	-0.20	-0.52	0.00	0.05
200	-0.19	-0.68	0.38	0.08	-0.21	-0.63	-0.02	0.06	-0.17	-0.46	0.00	0.05	-0.18	-0.51	0.02	0.05	-0.17	-0.61	0.01	0.05
210	-0.15	-1.06	0.60	0.12	-0.22	-0.78	0.01	0.07	-0.19	-0.59	-0.02	0.05	-0.19	-0.51	-0.05	0.05	-0.18	-0.55	0.00	0.06
220	-0.11	-0.64	0.60	0.15	-0.19	-0.62	0.03	0.07	-0.17	-0.78	-0.01	0.05	-0.18	-0.68	0.03	0.05	-0.19	-0.62	0.05	0.06
230	-0.09	-0.52	0.39	0.11	-0.15	-0.48	0.01	0.06	-0.14	-0.40	-0.01	0.04	-0.15	-0.43	0.05	0.05	-0.16	-0.43	0.02	0.05
240	-0.12	-0.48	0.23	0.06	-0.12	-0.38	0.02	0.04	-0.12	-0.32	0.04	0.04	-0.12	-0.37	0.05	0.03	-0.12	-0.29	0.02	0.04
250	-0.12	-0.43	0.26	0.05	-0.11	-0.27	0.06	0.04	-0.11	-0.42	0.05	0.04	-0.11	-0.37	0.06	0.04	-0.12	-0.45	0.16	0.04
260	-0.07	-0.32	0.54	0.07	-0.11	-0.34	0.06	0.04	-0.10	-0.41	0.09	0.04	-0.10	-0.49	0.13	0.05	-0.11	-0.49	0.22	0.05
270	-0.04	-0.41	0.69	0.09	-0.11	-0.30	0.04	0.03	-0.10	-0.42	0.17	0.05	-0.08	-0.40	0.22	0.07	-0.07	-0.39	0.35	0.07
280	0.12	-0.56	0.98	0.14	-0.15	-0.31	0.02	0.04	-0.11	-0.39	0.13	0.04	-0.02	-0.49	0.24	0.06	-0.07	-0.52	0.37	0.06
290	0.11	-0.21	0.56	0.10	-0.18	-0.44	-0.04	0.04	-0.13	-0.39	0.08	0.05	-0.01	-0.50	0.29	0.07	-0.05	-0.85	0.46	0.12
300	0.07	-0.27	0.46	0.09	-0.21	-0.51	-0.03	0.05	-0.13	-0.38	0.21	0.07	-0.01	-0.46	0.38	0.10	0.05	-0.53	0.54	0.12
310	0.02	-0.30	0.40	0.08	-0.23	-0.78	-0.05	0.05	-0.09	-0.41	0.40	0.09	0.01	-0.47	0.59	0.12	0.15	-0.46	0.63	0.12
320	-0.02	-0.33	0.31	0.07	-0.24	-0.73	-0.02	0.06	-0.02	-0.41	0.50	0.12	0.05	-0.49	0.74	0.14	0.21	0.51	0.77	0.13
330	-0.09	-0.47	0.21	0.07	-0.28	-1.02	0.01	0.10	0.08	-0.44	0.66	0.13	0.13	-0.42	0.79	0.16	0.17	-0.34	0.91	0.14
340	-0.17	-0.74	0.09	0.11	-0.34	-1.16	0.03	0.12	0.11	-0.38	0.72	0.14	0.19	-0.38	0.89	0.17	0.16	-0.37	0.91	0.16
350	-0.25	-0.99	0.02	0.11	-0.33	-1.30	0.07	0.13	0.22	-0.48	0.89	0.14	0.20	-0.33	0.96	0.17	0.17	-0.42	0.89	0.18
360	-0.31	-1.04	0.04	0.12	-0.21	-0.82	0.07	0.09	0.27	-0.31	0.81	0.14	0.18	-0.39	0.87	0.17	0.18	0.34	0.88	0.16

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # A 6 MEAN	MIN	MAX	RMS	TAP # A 7 MEAN	MIN	MAX	RMS	TAP # A 8 MEAN	MIN	MAX	RMS	TAP # A 9 MEAN	MIN	MAX	RMS	TAP # A 10 MEAN	MIN	MAX	RMS
10	0.07	-0.41	0.68	0.11	-0.30	-0.99	-0.03	0.09	-0.27	-0.81	-0.01	0.09	-0.26	-0.73	0.07	0.08	-0.22	-0.65	0.04	0.08
20	0.01	-0.35	0.40	0.09	-0.18	-0.48	0.05	0.06	-0.17	-0.55	0.06	0.07	-0.18	-0.48	0.10	0.07	-0.18	-0.74	0.01	0.07
30	-0.01	-0.35	0.38	0.06	-0.09	-0.43	0.12	0.05	-0.08	-0.37	0.13	0.05	-0.09	-0.36	0.10	0.05	-0.10	-0.56	0.08	0.06
40	-0.01	-0.18	0.26	0.05	-0.04	-0.25	0.10	0.04	-0.04	-0.23	0.09	0.04	-0.05	-0.22	0.11	0.04	-0.07	-0.26	0.09	0.04
50	-0.02	-0.22	0.22	0.04	-0.06	-0.33	0.12	0.04	-0.05	-0.22	0.09	0.04	-0.07	-0.25	0.08	0.04	-0.10	-0.36	0.09	0.05
60	-0.01	-0.30	0.29	0.06	-0.05	-0.26	0.13	0.04	-0.04	-0.26	0.11	0.04	-0.04	-0.18	0.09	0.03	-0.06	-0.23	0.11	0.04
70	-0.08	-0.49	0.35	0.07	-0.08	-0.42	0.09	0.05	-0.07	-0.37	0.11	0.05	-0.07	-0.24	0.08	0.04	-0.08	-0.33	0.11	0.05
80	-0.14	-0.81	0.21	0.09	-0.10	-0.60	0.06	0.06	-0.09	-0.36	0.12	0.05	-0.09	-0.33	0.07	0.04	-0.10	-0.40	0.06	0.04
90	-0.19	-1.01	0.11	0.10	-0.15	-0.76	0.09	0.07	-0.16	-0.71	0.04	0.06	-0.15	-0.43	0.03	0.05	-0.14	-0.43	0.05	0.05
100	-0.21	-0.76	0.17	0.09	-0.25	-1.05	0.01	0.10	-0.27	-1.31	0.01	0.10	-0.23	-0.58	0.02	0.06	-0.23	-0.56	0.05	0.07
110	-0.21	-0.65	0.09	0.07	-0.24	-0.87	-0.01	0.08	-0.25	-1.30	0.02	0.08	-0.22	-0.53	-0.03	0.06	-0.22	-0.54	0.04	0.06
120	-0.22	-0.64	-0.01	0.06	-0.23	-0.76	-0.03	0.06	-0.23	-0.76	-0.04	0.06	-0.23	-0.59	-0.03	0.05	-0.24	-0.91	0.05	0.07
130	-0.23	-0.64	-0.03	0.05	-0.25	-0.91	0.02	0.07	-0.25	-0.92	0.02	0.08	-0.28	-0.94	0.03	0.09	-0.31	-1.22	0.09	0.13
140	-0.30	-0.66	-0.04	0.06	-0.36	-1.20	-0.01	0.10	-0.37	-1.14	0.07	0.10	-0.37	-1.02	0.03	0.10	-0.39	-0.93	0.09	0.11
150	-0.28	-0.60	-0.07	0.06	-0.31	-0.99	0.02	0.09	-0.33	-0.86	0.00	0.09	-0.33	-0.86	-0.02	0.09	-0.36	-1.02	0.08	0.12
160	-0.27	-0.60	-0.05	0.06	-0.30	-0.86	0.08	0.09	-0.31	-0.88	0.01	0.09	-0.36	-0.83	0.12	0.10	-0.50	-1.25	-0.06	0.15
170	-0.29	-0.81	-0.01	0.08	-0.30	-0.84	0.04	0.09	-0.30	-0.87	0.05	0.09	-0.32	-1.10	-0.01	0.11	-0.61	-1.51	0.01	0.16
180	-0.25	-0.79	0.01	0.08	-0.28	-0.89	0.04	0.09	-0.25	-0.88	0.08	0.08	-0.26	-0.92	0.10	0.10	-0.55	-1.39	0.21	0.16
190	-0.18	-0.59	-0.01	0.06	-0.21	-0.78	-0.02	0.08	-0.20	-0.62	0.08	0.06	-0.21	-0.84	0.18	0.08	-0.37	-1.27	0.23	0.13
200	-0.19	-0.58	0.04	0.05	-0.19	-0.55	0.16	0.06	-0.16	-0.57	0.21	0.07	-0.18	-0.59	0.47	0.08	-0.21	-0.92	0.49	0.09
210	-0.21	-0.65	-0.02	0.06	-0.20	-0.79	0.47	0.09	-0.17	-0.72	0.40	0.09	-0.14	-0.71	0.58	0.12	-0.21	-1.00	0.36	0.09
220	-0.21	-0.64	0.02	0.07	-0.23	-0.99	0.37	0.11	-0.13	-0.61	0.46	0.09	-0.06	-0.71	0.68	0.16	-0.18	-0.67	0.48	0.11
230	-0.18	-0.59	0.01	0.06	-0.21	-0.69	0.45	0.08	-0.12	-0.48	0.29	0.07	-0.05	-0.48	0.59	0.11	0.12	-0.52	0.62	0.10
240	-0.14	-0.40	0.00	0.04	-0.15	-0.44	0.15	0.05	-0.12	-0.46	0.17	0.05	-0.10	-0.46	0.34	0.07	-0.14	-0.33	0.28	0.05
250	-0.13	-0.42	0.10	0.04	-0.12	-0.46	0.29	0.05	-0.12	-0.51	0.16	0.04	-0.12	-0.32	0.22	0.05	-0.12	-0.29	0.21	0.04
260	-0.12	-0.58	0.28	0.06	-0.08	-0.54	0.59	0.07	-0.08	-0.49	0.44	0.06	-0.07	-0.33	0.42	0.06	-0.09	-0.55	0.25	0.05
270	-0.10	-0.77	0.36	0.09	0.02	-0.36	0.66	0.13	-0.01	-0.47	0.89	0.11	-0.03	-0.27	0.59	0.08	-0.11	-0.43	0.28	0.06
280	-0.08	-0.77	0.37	0.15	0.29	-0.33	1.05	0.15	0.26	-0.59	0.97	0.15	0.18	-0.25	0.87	0.13	-0.16	-0.60	0.40	0.10
290	-0.09	-0.87	0.47	0.17	0.31	-0.15	1.09	0.13	0.27	-0.33	0.84	0.12	0.22	-0.15	0.93	0.11	-0.13	-0.53	0.48	0.08
300	0.06	-1.09	0.82	0.18	0.28	-0.28	0.85	0.14	0.18	-0.40	0.82	0.15	0.12	-0.25	0.55	0.11	-0.21	-0.52	0.15	0.07
310	0.16	-0.61	0.83	0.16	0.20	-0.45	0.73	0.14	0.07	-0.35	0.68	0.13	0.06	-0.24	0.42	0.09	-0.23	-0.45	0.03	0.08
320	0.21	-0.36	0.76	0.13	0.09	-0.59	0.92	0.16	-0.04	-0.56	0.52	0.11	0.00	-0.22	0.38	0.07	-0.22	-0.49	-0.03	0.05
330	0.31	-0.20	0.84	0.13	-0.08	-0.85	0.62	0.17	-0.16	-0.85	0.27	0.11	-0.07	-0.33	0.31	0.06	-0.21	-0.44	-0.01	0.04
340	0.26	-0.23	0.72	0.13	-0.24	-1.24	0.31	0.16	-0.27	-1.00	0.09	0.12	-0.11	-0.40	0.12	0.06	-0.20	-0.43	-0.04	0.04
350	0.23	-0.32	0.88	0.14	-0.34	-1.35	0.23	0.14	-0.39	-1.05	-0.01	0.14	-0.16	-0.69	0.07	0.07	-0.20	-0.52	-0.01	0.05
360	0.11	-0.29	0.63	0.13	-0.40	-1.18	0.08	0.14	-0.36	-1.09	0.04	0.12	-0.22	-0.81	0.07	0.10	-0.22	-0.63	0.02	0.07

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # A 11 MEAN	MIN	MAX	RMS	TAP # A 12 MEAN	MIN	MAX	RMS	TAP # A 13 MEAN	MIN	MAX	RMS	TAP # A 14 MEAN	MIN	MAX	RMS	TAP # A 15 MEAN	MIN	MAX	RMS
10	-0.22	-0.59	0.01	0.08	-0.19	-0.57	0.03	0.06	-0.19	-0.52	0.02	0.06	-0.16	-0.49	0.01	0.05	-0.16	-0.50	0.04	0.04
20	-0.18	-0.59	0.03	0.07	-0.14	-0.41	0.06	0.06	-0.14	-0.51	0.11	0.06	-0.11	-0.56	0.17	0.05	-0.12	-0.45	0.07	0.05
30	-0.09	-0.50	0.10	0.05	-0.08	-0.47	0.17	0.06	-0.08	-0.48	0.17	0.05	-0.10	-0.41	0.13	0.06	-0.10	-0.39	0.06	0.05
40	-0.07	-0.32	0.08	0.04	-0.09	-0.42	0.11	0.05	-0.14	-0.63	0.13	0.07	-0.16	-0.52	0.13	0.07	-0.15	-0.49	0.08	0.06
50	-0.11	-0.37	0.08	0.05	-0.15	-0.63	0.09	0.07	-0.25	-0.63	0.06	0.07	-0.26	-0.53	-0.04	0.06	-0.27	-0.55	-0.04	0.05
60	-0.07	-0.31	0.13	0.05	-0.13	-0.81	0.21	0.09	-0.24	-0.76	0.22	0.09	-0.24	-0.71	-0.01	0.06	-0.24	-0.54	-0.03	0.06
70	-0.09	-0.36	0.11	0.05	-0.08	-0.63	0.25	0.08	-0.18	-0.77	0.34	0.11	-0.32	-0.87	0.04	0.09	-0.32	-0.85	-0.06	0.08
80	-0.10	-0.33	0.06	0.04	-0.09	-0.40	0.23	0.05	-0.02	-0.50	0.34	0.09	-0.29	-0.85	0.21	0.13	-0.46	-0.85	-0.02	0.10
90	-0.14	-0.42	0.05	0.05	-0.08	-0.31	0.16	0.05	0.04	-0.27	0.36	0.06	-0.09	-0.74	0.37	0.11	-0.35	-0.90	0.31	0.14
100	-0.23	-0.61	0.05	0.07	-0.12	-0.43	0.25	0.07	0.03	-0.37	0.41	0.07	0.02	-0.63	0.50	0.10	-0.15	-0.83	0.58	0.17
110	-0.22	-0.65	0.00	0.06	-0.11	-0.44	0.31	0.07	0.03	-0.39	0.48	0.08	0.06	-0.42	0.57	0.08	0.04	-0.82	0.65	0.16
120	-0.27	-0.94	-0.04	0.08	-0.12	-0.44	0.38	0.08	-0.02	-0.37	0.62	0.08	0.04	-0.33	0.48	0.08	0.10	-0.76	0.66	0.14
130	-0.40	-1.25	0.02	0.13	0.04	-0.56	0.75	0.15	0.08	-0.63	1.12	0.18	0.03	-0.52	0.73	0.14	0.06	-0.54	0.58	0.10
140	-0.43	-1.18	-0.10	0.11	0.06	-0.55	0.66	0.14	0.24	-0.59	0.95	0.18	0.24	-0.52	1.09	0.20	0.27	-0.39	0.97	0.14
150	-0.43	-1.06	-0.08	0.12	0.08	-0.48	0.63	0.12	0.21	-0.48	0.88	0.17	0.22	-0.44	1.00	0.17	0.20	-0.34	0.75	0.13
160	-0.53	-1.22	-0.15	0.14	0.13	-0.43	0.68	0.13	0.26	-0.32	0.88	0.17	0.25	-0.30	0.90	0.18	0.17	-0.33	0.74	0.12
170	-0.64	-1.57	0.01	0.17	0.18	-0.31	0.96	0.14	0.29	-0.38	0.94	0.17	0.26	-0.38	0.97	0.16	0.11	-0.49	0.54	0.12
180	-0.56	-1.53	0.10	0.17	0.12	-0.39	0.88	0.13	0.21	-0.42	0.98	0.17	0.23	-0.46	1.03	0.17	0.05	-0.44	0.53	0.12
190	-0.35	-1.25	0.13	0.13	-0.01	-0.39	0.67	0.11	0.06	-0.51	1.06	0.14	0.04	-0.42	0.82	0.13	-0.05	-0.45	0.40	0.10
200	-0.23	-0.80	0.43	0.09	-0.10	-0.49	0.42	0.09	-0.03	-0.44	0.62	0.12	0.00	-0.42	0.60	0.11	-0.03	-0.41	0.35	0.07
210	-0.22	-0.69	0.53	0.09	-0.22	-0.71	0.26	0.07	-0.17	-0.67	0.70	0.12	-0.05	-0.89	0.69	0.16	-0.08	-0.48	0.44	0.08
220	-0.22	-0.85	0.54	0.12	-0.25	-0.65	0.13	0.07	-0.25	-0.74	0.47	0.08	-0.22	-1.08	0.66	0.14	-0.11	-0.70	0.42	0.11
230	-0.13	-0.53	0.41	0.11	-0.23	-0.65	0.08	0.06	-0.21	-0.59	0.07	0.06	-0.20	-0.77	0.23	0.07	-0.14	-0.57	0.34	0.07
240	-0.14	-0.38	0.26	0.06	-0.16	-0.41	0.00	0.04	-0.15	-0.36	0.02	0.04	-0.15	-0.48	0.02	0.04	-0.14	-0.45	0.07	0.04
250	-0.13	-0.38	0.22	0.04	-0.13	-0.44	-0.01	0.03	-0.13	-0.31	0.05	0.03	-0.13	-0.40	0.10	0.04	-0.13	-0.42	0.03	0.04
260	-0.10	-0.47	0.19	0.05	-0.13	-0.37	0.03	0.04	-0.11	-0.32	0.15	0.04	-0.11	-0.38	0.07	0.04	-0.11	-0.38	0.01	0.04
270	-0.18	-1.05	0.41	0.11	-0.18	-0.75	0.01	0.06	-0.14	-0.48	0.03	0.05	-0.14	-0.57	0.03	0.05	-0.12	-0.34	0.01	0.04
280	-0.47	-1.19	0.50	0.16	-0.41	-1.04	-0.05	0.10	-0.33	-0.87	0.05	0.09	-0.29	-1.02	-0.01	0.10	-0.22	-1.06	-0.01	0.07
290	-0.56	-1.23	0.53	0.11	-0.40	-0.91	-0.03	0.09	-0.38	-0.83	-0.07	0.08	-0.34	-1.20	0.01	0.10	-0.25	-0.71	-0.01	0.07
300	-0.50	-1.06	-0.06	0.10	-0.35	-0.80	-0.08	0.08	-0.36	-0.83	-0.10	0.08	-0.31	-0.75	-0.03	0.08	-0.26	-0.84	-0.01	0.07
310	-0.43	-1.03	0.02	0.10	-0.32	-0.80	-0.07	0.07	-0.32	-0.66	-0.08	0.07	-0.28	-0.69	-0.08	0.07	-0.23	-0.71	-0.03	0.05
320	-0.35	-0.84	-0.13	0.08	-0.29	-0.70	-0.04	0.06	-0.29	-0.62	-0.07	0.05	-0.27	-0.75	-0.08	0.06	-0.26	-0.65	-0.07	0.05
330	-0.28	-0.64	-0.06	0.05	-0.26	-0.54	-0.08	0.05	-0.25	-0.54	-0.05	0.05	-0.26	-0.48	-0.09	0.05	-0.25	-0.56	-0.09	0.05
340	-0.24	-0.59	-0.06	0.05	-0.21	-0.44	-0.04	0.05	-0.23	-0.46	-0.07	0.05	-0.24	-0.53	-0.07	0.05	-0.24	-0.52	-0.06	0.05
350	-0.23	-0.67	-0.02	0.06	-0.20	-0.46	0.00	0.05	-0.21	-0.47	-0.07	0.05	-0.21	-0.56	-0.06	0.05	-0.23	-0.68	-0.02	0.06
360	-0.22	-0.58	-0.03	0.06	-0.20	-0.51	-0.02	0.06	-0.19	-0.45	0.00	0.05	-0.19	-0.44	-0.01	0.05	-0.19	-0.59	0.00	0.05

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # A 16 MEAN	MIN	MAX	RMS	TAP # A 17 MEAN	MIN	MAX	RMS	TAP # A 18 MEAN	MIN	MAX	RMS	TAP # A 19 MEAN	MIN	MAX	RMS	TAP # A 20 MEAN	MIN	MAX	RMS
10	-0.17	-0.43	-0.01	0.04	-0.14	-0.34	0.02	0.04	-0.04	-0.28	0.28	0.05	-0.15	-0.71	0.21	0.10	-0.06	-0.79	0.65	0.16
20	-0.15	-0.53	0.10	0.06	-0.09	-0.37	0.14	0.04	0.05	-0.18	0.35	0.07	-0.01	-0.49	0.45	0.11	0.12	-0.89	0.72	0.16
30	-0.19	-0.65	0.18	0.09	-0.08	-0.33	0.17	0.05	0.09	-0.14	0.45	0.09	0.13	-0.41	0.64	0.13	0.19	-0.42	0.84	0.15
40	-0.23	-0.77	0.43	0.11	-0.06	-0.35	0.25	0.06	0.19	-0.10	0.55	0.10	0.22	-0.39	0.75	0.13	0.26	-0.20	0.85	0.13
50	-0.28	-0.62	0.64	0.12	0.01	-0.26	0.25	0.06	0.37	-0.02	0.69	0.09	0.37	-0.09	0.77	0.11	0.38	-0.05	0.85	0.11
60	0.05	-0.63	0.77	0.22	0.14	-0.12	0.45	0.08	0.44	0.14	0.81	0.09	0.36	-0.03	0.75	0.10	0.39	-0.19	0.90	0.11
70	0.37	-0.45	0.93	0.15	0.26	-0.16	0.66	0.09	0.48	0.05	0.82	0.10	0.27	-0.12	0.66	0.09	0.27	-0.58	0.91	0.16
80	0.43	-0.39	0.99	0.12	0.31	-0.15	0.79	0.09	0.46	0.00	0.88	0.11	0.17	-0.20	0.58	0.09	0.01	-0.79	0.86	0.21
90	0.41	-0.46	1.00	0.13	0.36	-0.49	0.90	0.12	0.42	-0.12	0.90	0.12	0.07	-0.42	0.62	0.09	-0.26	-0.95	0.71	0.18
100	0.43	-0.41	0.96	0.13	0.40	-0.25	0.88	0.12	0.38	-0.21	0.84	0.11	-0.03	-0.42	0.37	0.08	-0.36	-0.86	0.55	0.11
110	0.34	-0.43	0.96	0.17	0.31	-0.54	0.78	0.17	0.24	-0.35	0.68	0.13	-0.12	-0.48	0.21	0.07	-0.40	-1.00	0.11	0.11
120	0.19	-0.62	0.97	0.15	0.14	-0.46	0.71	0.14	0.07	-0.29	0.57	0.11	-0.20	-0.46	0.14	0.06	-0.41	-1.10	0.11	0.11
130	-0.13	-1.14	0.65	0.17	-0.11	-0.70	0.68	0.14	-0.08	-0.47	0.46	0.09	-0.22	-0.49	0.12	0.06	-0.34	-0.81	0.00	0.07
140	-0.41	-1.21	0.45	0.18	-0.36	-1.24	0.13	0.15	-0.20	-0.48	0.15	0.06	-0.30	-0.59	-0.09	0.06	-0.35	-0.89	-0.09	0.08
150	-0.43	-1.19	0.38	0.15	-0.39	-1.01	0.08	0.12	-0.20	-0.54	0.09	0.05	-0.26	-0.59	-0.03	0.05	-0.28	-0.70	-0.04	0.06
160	-0.55	-1.24	-0.10	0.15	-0.53	-1.13	-0.14	0.14	-0.26	-0.83	-0.07	0.06	-0.26	-0.55	-0.02	0.06	-0.30	-0.81	-0.08	0.07
170	-0.59	-1.30	-0.15	0.13	-0.51	-1.08	-0.01	0.13	-0.31	-0.93	-0.02	0.10	-0.29	-0.75	0.04	0.08	-0.30	-0.75	-0.01	0.08
180	-0.48	-1.26	-0.06	0.14	-0.42	-1.36	0.00	0.14	-0.32	-0.90	0.02	0.10	-0.27	-0.78	0.10	0.08	-0.28	-0.67	0.01	0.08
190	-0.33	-0.92	-0.03	0.11	-0.29	-1.06	0.06	0.10	-0.24	-0.82	0.03	0.07	-0.21	-0.66	0.02	0.06	-0.19	-0.68	0.03	0.06
200	-0.26	-0.71	-0.02	0.08	-0.24	-0.72	0.04	0.08	-0.20	-0.66	0.00	0.06	-0.20	-0.61	-0.03	0.05	-0.19	-0.52	-0.04	0.05
210	-0.31	-1.08	-0.04	0.10	-0.28	-1.33	-0.03	0.10	-0.22	-0.76	-0.02	0.07	-0.21	-0.99	0.01	0.06	-0.19	-0.55	-0.01	0.05
220	-0.28	-1.30	-0.01	0.11	-0.23	-0.84	0.06	0.09	-0.20	-0.52	0.02	0.06	-0.18	-0.56	-0.01	0.05	-0.18	-0.57	0.00	0.05
230	-0.17	-0.64	0.02	0.06	-0.16	-0.53	0.02	0.05	-0.15	-0.47	0.03	0.04	-0.15	-0.42	-0.02	0.04	-0.15	-0.41	-0.03	0.04
240	-0.14	-0.43	0.02	0.04	-0.12	-0.25	0.08	0.03	-0.13	-0.35	0.00	0.03	-0.12	-0.32	-0.01	0.03	-0.12	-0.28	0.03	0.03
250	-0.12	-0.42	0.03	0.04	-0.11	-0.26	0.06	0.04	-0.11	-0.32	0.03	0.03	-0.11	-0.44	0.04	0.03	-0.11	-0.40	0.03	0.03
260	-0.11	-0.35	0.03	0.04	-0.11	-0.41	0.04	0.04	-0.10	-0.30	0.00	0.03	-0.10	-0.29	0.03	0.04	-0.11	-0.31	0.02	0.03
270	-0.12	-0.29	0.01	0.03	-0.12	-0.28	0.03	0.03	-0.11	-0.25	0.03	0.03	-0.11	-0.36	0.04	0.03	-0.11	-0.28	0.01	0.03
280	-0.17	-0.44	-0.02	0.04	-0.18	-0.37	-0.04	0.04	-0.15	-0.32	-0.04	0.03	-0.15	-0.31	-0.01	0.03	-0.14	-0.31	-0.01	0.03
290	-0.20	-0.50	-0.05	0.04	-0.20	-0.43	-0.06	0.04	-0.19	-0.36	-0.06	0.03	-0.19	-0.40	-0.03	0.04	-0.19	-0.40	-0.06	0.03
300	-0.23	-0.51	-0.06	0.05	-0.23	-0.56	-0.06	0.04	-0.22	-0.36	-0.05	0.04	-0.23	-0.45	-0.08	0.04	-0.21	-0.41	-0.08	0.04
310	-0.25	-0.58	-0.07	0.05	-0.25	-0.91	-0.09	0.05	-0.24	-0.49	-0.09	0.04	-0.24	-0.51	-0.05	0.05	-0.24	-0.54	-0.07	0.05
320	-0.25	-0.68	-0.09	0.05	-0.25	-0.67	-0.09	0.05	-0.25	-0.50	-0.08	0.05	-0.26	-0.58	-0.01	0.06	-0.27	-0.74	-0.03	0.06
330	-0.27	-0.68	-0.04	0.06	-0.27	-0.63	-0.07	0.06	-0.28	-0.67	0.00	0.07	-0.32	-0.88	0.06	0.09	-0.33	-0.87	-0.07	0.09
340	-0.26	-0.61	0.03	0.07	-0.27	-0.70	0.03	0.07	-0.29	-0.83	0.05	0.08	-0.42	-1.12	-0.03	0.13	-0.43	-1.11	-0.05	0.13
350	-0.25	-0.68	0.13	0.07	-0.23	-0.70	0.04	0.06	-0.24	-0.71	0.02	0.08	-0.48	-1.04	0.00	0.13	-0.48	-1.51	0.19	0.16
360	-0.20	-0.54	-0.04	0.05	-0.19	-0.47	-0.04	0.04	-0.15	-0.53	0.09	0.05	-0.35	-1.14	0.01	0.13	-0.30	-1.01	0.19	0.13

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # B 1 MEAN	MIN	MAX	RMS	TAP # B 2 MEAN	MIN	MAX	RMS	TAP # B 3 MEAN	MIN	MAX	RMS	TAP # B 4 MEAN	MIN	MAX	RMS	TAP # B 5 MEAN	MIN	MAX	RMS
10	0.30	-0.51	1.00	0.16	0.14	-1.13	0.90	0.17	0.27	-0.32	0.90	0.14	0.23	-0.15	0.74	0.11	-0.02	-0.37	0.44	0.08
20	0.28	-0.26	0.88	0.15	0.24	-0.62	0.84	0.15	0.26	-0.39	0.89	0.13	0.18	-0.16	0.63	0.10	-0.05	-0.30	0.25	0.06
30	0.23	-0.19	0.79	0.15	0.25	-0.16	1.00	0.14	0.11	-0.87	0.78	0.17	0.10	-0.15	0.49	0.09	-0.04	-0.33	0.28	0.06
40	0.25	-0.31	0.91	0.14	0.28	-0.11	0.82	0.13	-0.07	-0.96	0.61	0.16	0.08	-0.18	0.42	0.08	0.00	-0.31	0.24	0.04
50	0.21	-0.30	0.74	0.11	0.41	-0.07	0.83	0.11	-0.30	-1.05	0.25	0.10	0.04	-0.41	0.28	0.06	-0.01	-0.20	0.12	0.03
60	0.06	-0.35	0.48	0.09	0.40	-0.02	1.10	0.10	-0.36	-0.83	-0.11	0.07	-0.12	-0.60	0.19	0.11	-0.02	-0.29	0.14	0.05
70	-0.12	-0.50	0.22	0.07	0.42	-0.14	0.93	0.12	-0.37	-0.89	-0.14	0.08	-0.32	-0.84	0.19	0.11	-0.10	-0.67	0.19	0.08
80	-0.14	-0.49	0.10	0.06	0.40	-0.27	0.98	0.13	-0.26	-0.58	-0.03	0.07	-0.31	-0.70	0.02	0.09	-0.18	-0.85	0.18	0.09
90	-0.21	-0.67	0.06	0.06	0.32	-0.41	0.92	0.15	-0.26	-0.66	-0.04	0.07	-0.32	-0.71	-0.03	0.08	-0.21	-0.69	0.08	0.08
100	-0.27	-0.81	0.00	0.09	0.17	-0.75	0.74	0.18	-0.24	-0.83	-0.01	0.06	-0.28	-0.60	0.06	0.08	-0.22	-0.63	0.06	0.07
110	-0.29	-0.86	0.02	0.09	-0.01	-0.62	0.65	0.17	-0.23	-0.65	0.00	0.07	-0.25	-0.77	0.01	0.07	-0.19	-0.82	0.08	0.07
120	-0.28	-0.83	-0.06	0.07	-0.12	-0.64	0.61	0.12	-0.21	-0.56	0.08	0.06	-0.21	-0.68	0.09	0.06	-0.20	-0.61	0.01	0.07
130	-0.28	-0.83	-0.05	0.05	-0.22	-0.55	0.40	0.08	-0.22	-0.48	0.03	0.05	-0.21	-0.73	-0.02	0.05	-0.22	-0.47	-0.01	0.04
140	-0.31	-0.72	-0.05	0.07	-0.32	-0.86	0.13	0.08	-0.30	-0.64	0.01	0.07	-0.30	-0.67	-0.09	0.05	-0.30	-0.58	-0.07	0.05
150	-0.27	-0.70	-0.05	0.06	-0.27	-0.72	0.01	0.06	-0.26	-0.60	0.01	0.06	-0.25	-0.58	-0.11	0.05	-0.28	-0.57	-0.09	0.05
160	-0.26	-0.64	-0.05	0.06	-0.27	-0.66	-0.07	0.06	-0.23	-0.54	-0.08	0.05	-0.25	-0.50	-0.08	0.05	-0.27	-0.57	-0.08	0.06
170	-0.27	-0.67	-0.05	0.07	-0.28	-0.69	-0.01	0.06	-0.26	-0.70	-0.05	0.06	-0.24	-0.49	-0.04	0.05	-0.26	-0.72	-0.01	0.06
180	-0.25	-0.56	-0.03	0.06	-0.23	-0.71	0.03	0.06	-0.22	-0.67	-0.01	0.06	-0.23	-0.48	-0.02	0.05	-0.24	-0.70	-0.02	0.06
190	-0.18	-0.47	-0.02	0.04	-0.19	-0.57	-0.01	0.05	-0.18	-0.49	-0.03	0.04	-0.17	-0.38	-0.03	0.04	-0.18	-0.49	-0.01	0.04
200	-0.18	-0.44	0.00	0.04	-0.18	-0.45	-0.02	0.04	-0.16	-0.47	0.03	0.05	-0.17	-0.37	0.00	0.04	-0.18	-0.56	-0.01	0.05
210	-0.18	-0.45	-0.02	0.04	-0.18	-0.46	0.00	0.05	-0.17	-0.50	-0.02	0.04	-0.17	-0.58	0.02	0.05	-0.19	-0.63	0.04	0.05
220	-0.16	-0.43	-0.03	0.04	-0.17	-0.40	-0.01	0.04	-0.17	-0.44	-0.01	0.04	-0.18	-0.40	0.00	0.05	-0.18	-0.54	0.01	0.06
230	-0.14	-0.33	-0.01	0.03	-0.14	-0.30	0.00	0.03	-0.14	-0.43	0.02	0.04	-0.15	-0.35	0.01	0.04	-0.15	-0.48	0.02	0.04
240	-0.11	-0.25	0.02	0.03	-0.11	-0.29	0.02	0.03	-0.12	-0.27	0.06	0.03	-0.12	-0.26	0.04	0.03	-0.12	-0.36	0.07	0.04
250	-0.11	-0.39	0.04	0.03	-0.10	-0.26	0.04	0.03	-0.11	-0.39	0.04	0.04	-0.12	-0.33	0.02	0.03	-0.12	-0.51	0.06	0.04
260	-0.11	-0.36	0.02	0.04	-0.11	-0.26	0.02	0.03	-0.10	-0.33	0.06	0.04	-0.11	-0.48	0.10	0.04	-0.14	-1.07	0.14	0.06
270	-0.12	-0.37	0.01	0.04	-0.11	-0.27	0.02	0.03	-0.09	-0.37	0.05	0.04	-0.07	-0.46	0.21	0.06	-0.12	-0.97	0.30	0.09
280	-0.16	-0.32	-0.03	0.03	-0.15	-0.31	-0.02	0.03	-0.10	-0.31	0.06	0.03	-0.01	-0.24	0.21	0.05	-0.22	-1.01	0.42	0.14
290	-0.23	-0.53	-0.09	0.04	-0.21	-0.43	-0.06	0.04	-0.12	-0.29	0.05	0.04	0.01	-0.20	0.28	0.06	-0.21	-0.83	0.45	0.15
300	-0.29	-0.63	-0.13	0.06	-0.26	-0.55	-0.07	0.06	-0.12	-0.39	0.18	0.05	0.06	-0.27	0.53	0.08	-0.03	-0.79	0.59	0.21
310	-0.33	-0.99	-0.09	0.08	-0.34	-1.13	-0.10	0.10	-0.11	-0.42	0.23	0.06	0.10	-0.19	0.61	0.10	0.16	-0.71	0.80	0.17
320	-0.42	-1.25	0.22	0.14	-0.49	-1.60	0.00	0.18	-0.11	-0.48	0.29	0.08	0.14	-0.21	0.67	0.11	0.26	-0.48	0.76	0.14
330	-0.46	-1.41	0.19	0.16	-0.68	-2.29	-0.02	0.24	-0.05	-0.37	0.34	0.09	0.22	-0.10	0.75	0.11	0.29	-0.16	0.90	0.13
340	-0.34	-1.59	0.60	0.20	-0.75	-2.43	0.10	0.30	0.01	-0.42	0.53	0.11	0.25	-0.17	0.73	0.13	0.27	-0.16	0.96	0.13
350	-0.15	-1.26	0.88	0.21	-0.65	-2.61	0.31	0.37	0.10	-0.32	0.67	0.13	0.27	-0.10	0.93	0.13	0.19	-0.27	0.75	0.12
360	0.12	-0.86	0.94	0.21	-0.18	-1.88	0.60	0.26	0.22	-0.36	0.80	0.14	0.21	-0.19	0.80	0.13	0.07	-0.29	0.56	0.10

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # B 6 MEAN	MIN	MAX	RMS	TAP # B 7 MEAN	MIN	MAX	RMS	TAP # B 8 MEAN	MIN	MAX	RMS	TAP # B 9 MEAN	MIN	MAX	RMS	TAP # B 10 MEAN	MIN	MAX	RMS
10	-0.66	-2.77	0.10	0.28	-0.31	-1.46	0.57	0.20	-0.33	-0.96	0.04	0.09	-0.29	-0.75	0.01	0.08	-0.26	-0.71	0.02	0.08
20	-0.46	-1.76	0.03	0.20	-0.30	-1.16	0.23	0.14	-0.22	-0.82	0.01	0.08	-0.19	-0.63	0.07	0.08	-0.20	-0.54	0.02	0.07
30	-0.21	-1.14	0.11	0.12	-0.16	-0.78	0.19	0.08	-0.10	-0.41	0.08	0.05	-0.09	-0.38	0.08	0.05	-0.10	-0.37	0.05	0.05
40	-0.05	-0.42	0.10	0.04	-0.06	-0.41	0.10	0.04	-0.06	-0.25	0.08	0.03	-0.05	-0.21	0.14	0.03	-0.06	-0.22	0.11	0.03
50	-0.04	-0.18	0.10	0.03	-0.05	-0.26	0.10	0.03	-0.05	-0.22	0.08	0.03	-0.06	-0.20	0.08	0.03	-0.09	-0.23	0.08	0.03
60	-0.04	-0.25	0.13	0.04	-0.04	-0.31	0.12	0.04	-0.03	-0.21	0.11	0.03	-0.03	-0.19	0.09	0.03	-0.05	-0.20	0.11	0.03
70	-0.08	-0.41	0.13	0.05	-0.09	-0.42	0.13	0.05	-0.07	-0.31	0.09	0.04	-0.07	-0.25	0.09	0.04	-0.07	-0.21	0.08	0.03
80	-0.12	-0.47	0.11	0.05	-0.13	-0.57	0.13	0.06	-0.10	-0.37	0.07	0.04	-0.10	-0.37	0.05	0.04	-0.10	-0.31	0.03	0.04
90	-0.17	-1.03	0.07	0.08	-0.18	-0.76	0.07	0.06	-0.16	-0.50	0.05	0.05	-0.17	-0.45	0.01	0.05	-0.17	-0.45	0.04	0.05
100	-0.21	-0.79	0.03	0.07	-0.21	-0.73	0.07	0.07	-0.24	-0.89	-0.01	0.07	-0.25	-0.74	-0.01	0.07	-0.25	-0.50	-0.04	0.06
110	-0.21	-0.95	0.00	0.07	-0.20	-0.71	0.01	0.06	-0.23	-0.71	-0.03	0.06	-0.25	-0.74	-0.02	0.06	-0.23	-0.51	-0.04	0.06
120	-0.21	-0.74	-0.02	0.06	-0.21	-0.65	-0.05	0.05	-0.21	-0.52	-0.02	0.05	-0.23	-0.54	-0.05	0.05	-0.23	-0.59	-0.05	0.05
130	-0.23	-0.59	-0.05	0.05	-0.22	-0.52	-0.03	0.05	-0.24	-0.58	0.00	0.06	-0.25	-0.70	0.06	0.07	-0.27	-0.73	0.03	0.08
140	-0.34	-0.73	-0.04	0.07	-0.32	-0.69	-0.05	0.06	-0.35	-0.87	0.00	0.08	-0.37	-1.04	0.01	0.09	-0.37	-0.88	-0.06	0.10
150	-0.31	-0.73	-0.06	0.07	-0.30	-0.61	-0.06	0.06	-0.30	-0.64	-0.05	0.07	-0.32	-0.75	0.01	0.08	-0.34	-0.86	0.01	0.09
160	-0.27	-0.69	-0.09	0.06	-0.28	-0.63	-0.03	0.06	-0.29	-0.72	-0.02	0.07	-0.30	-0.73	0.03	0.07	-0.35	-0.79	0.02	0.09
170	-0.28	-0.83	0.07	0.08	-0.29	-0.76	-0.04	0.07	-0.30	-0.78	0.04	0.08	-0.28	-0.72	-0.06	0.07	-0.35	-0.86	0.04	0.09
180	-0.26	-0.71	0.04	0.07	-0.25	-0.73	-0.01	0.07	-0.29	-0.82	-0.03	0.08	-0.25	-0.59	0.02	0.06	-0.29	-0.75	0.03	0.08
190	-0.18	-0.50	0.14	0.05	-0.20	-0.69	-0.04	0.05	-0.20	-0.65	-0.03	0.06	-0.19	-0.48	0.04	0.05	-0.20	-0.64	0.02	0.06
200	-0.16	-0.49	0.24	0.06	-0.19	-0.52	-0.01	0.05	-0.20	-0.54	0.17	0.05	-0.17	-0.50	0.14	0.06	-0.16	-0.47	0.41	0.08
210	-0.14	-0.50	0.48	0.09	-0.21	-0.71	0.00	0.06	-0.21	-0.69	0.29	0.08	-0.16	-0.61	0.49	0.10	-0.15	-0.57	0.53	0.12
220	-0.09	-0.49	0.52	0.10	-0.22	-0.58	-0.02	0.06	-0.23	-0.71	0.40	0.10	-0.12	-0.59	0.49	0.09	-0.06	-0.53	0.58	0.14
230	-0.11	-0.41	0.36	0.07	-0.18	-0.54	-0.01	0.05	-0.21	-0.74	0.33	0.08	-0.11	-0.41	0.28	0.06	-0.04	-0.60	0.62	0.10
240	-0.11	-0.32	0.23	0.04	-0.14	-0.38	-0.02	0.04	-0.14	-0.47	0.13	0.05	-0.11	-0.38	0.13	0.04	-0.09	-0.36	0.33	0.07
250	-0.11	-0.43	0.13	0.04	-0.13	-0.41	0.09	0.04	-0.13	-0.41	0.10	0.04	-0.12	-0.40	0.13	0.04	-0.12	-0.35	0.23	0.05
260	-0.07	-0.32	0.42	0.06	-0.10	-0.35	0.34	0.05	-0.09	-0.31	0.34	0.06	-0.08	-0.36	0.47	0.06	-0.09	-0.30	0.32	0.05
270	0.02	-0.33	0.76	0.11	-0.01	-0.32	0.61	0.10	0.01	-0.59	0.61	0.12	-0.01	-0.48	0.64	0.10	-0.03	-0.30	0.47	0.08
280	0.30	-0.15	1.03	0.14	0.24	-0.35	0.72	0.13	0.33	-0.13	0.88	0.14	0.28	-0.48	0.94	0.16	0.17	-0.25	0.82	0.12
290	0.32	-0.08	0.91	0.12	0.27	-0.22	0.91	0.13	0.37	-0.04	0.87	0.13	0.32	-0.30	0.89	0.13	0.23	-0.09	0.73	0.10
300	0.35	-0.09	0.98	0.14	0.30	-0.29	0.99	0.15	0.33	-0.26	0.86	0.15	0.21	-0.42	0.93	0.15	0.14	-0.25	0.58	0.10
310	0.28	-0.12	0.87	0.14	0.28	-0.21	0.82	0.14	0.22	-0.50	0.92	0.15	0.06	-0.56	0.72	0.15	0.04	-0.26	0.42	0.08
320	0.27	-0.45	0.92	0.14	0.30	-0.26	1.10	0.13	0.11	-0.50	0.74	0.16	-0.08	-0.86	0.54	0.13	-0.01	-0.25	0.31	0.07
330	0.18	-0.62	0.72	0.14	0.29	-0.31	0.92	0.15	-0.06	-0.97	0.55	0.13	-0.25	-1.18	0.26	0.14	-0.07	-0.43	0.27	0.06
340	0.00	-1.58	0.67	0.20	0.18	-0.61	0.88	0.18	-0.16	-0.98	0.46	0.14	-0.33	-1.29	0.22	0.17	-0.12	-0.50	0.12	0.06
350	-0.26	-2.31	0.44	0.29	0.05	-1.02	1.03	0.21	-0.29	-1.15	0.20	0.16	-0.46	-1.24	0.05	0.16	-0.18	-0.52	0.06	0.07
360	-0.50	-2.58	0.23	0.36	-0.19	-1.46	0.65	0.20	-0.40	-1.28	0.05	0.14	-0.40	-1.12	-0.06	0.13	-0.27	-0.68	0.00	0.10

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # B 11 MEAN	MIN	MAX	RMS	TAP # B 12 MEAN	MIN	MAX	RMS	TAP # B 13 MEAN	MIN	MAX	RMS	TAP # B 14 MEAN	MIN	MAX	RMS	TAP # B 15 MEAN	MIN	MAX	RMS
10	-0.23	-0.68	0.00	0.09	-0.24	-0.67	-0.02	0.08	-0.19	-0.53	0.01	0.06	-0.20	-0.63	0.01	0.07	-0.20	-0.48	-0.02	0.06
20	-0.21	-0.76	0.02	0.08	-0.18	-0.50	0.04	0.07	-0.15	-0.45	0.05	0.05	-0.15	-0.46	0.11	0.06	-0.14	-0.42	0.07	0.05
30	-0.11	-0.46	0.06	0.05	-0.10	-0.38	0.06	0.05	-0.08	-0.33	0.11	0.04	-0.09	-0.31	0.12	0.04	-0.10	-0.59	0.13	0.06
40	-0.08	-0.25	0.07	0.04	-0.08	-0.26	0.11	0.04	-0.08	-0.38	0.08	0.05	-0.09	-0.38	0.10	0.05	-0.12	-0.62	0.13	0.06
50	-0.12	-0.32	0.07	0.05	-0.14	-0.35	0.11	0.05	-0.14	-0.37	0.13	0.05	-0.16	-0.55	0.14	0.06	-0.19	-0.63	0.09	0.07
60	-0.06	-0.25	0.12	0.04	-0.07	-0.32	0.09	0.05	-0.09	-0.39	0.14	0.06	-0.09	-0.41	0.16	0.05	-0.14	-0.51	0.13	0.08
70	-0.08	-0.34	0.12	0.04	-0.08	-0.36	0.11	0.05	-0.09	-0.41	0.21	0.05	-0.11	-0.51	0.09	0.06	-0.10	-0.69	0.21	0.08
80	-0.10	-0.29	0.06	0.04	-0.11	-0.40	0.05	0.04	-0.16	-0.51	0.03	0.06	-0.15	-0.57	0.04	0.06	-0.07	-0.45	0.16	0.06
90	-0.17	-0.43	0.00	0.05	-0.17	-0.43	0.02	0.05	-0.24	-0.78	0.04	0.09	-0.24	-0.91	0.00	0.09	-0.09	-0.33	0.20	0.06
100	-0.26	-0.62	-0.03	0.07	-0.26	-0.93	0.01	0.08	-0.33	-1.45	0.17	0.13	-0.42	-1.32	0.00	0.14	-0.15	-0.49	0.19	0.07
110	-0.23	-0.64	0.04	0.06	-0.24	-0.72	0.01	0.07	-0.34	-1.21	0.15	0.12	-0.36	-1.42	0.00	0.12	-0.14	-0.44	0.18	0.07
120	-0.27	-0.84	-0.02	0.07	-0.28	-0.86	-0.04	0.08	-0.28	-0.92	0.47	0.12	-0.37	-1.26	0.05	0.12	-0.12	-0.40	0.41	0.07
130	-0.37	-1.15	0.00	0.12	-0.39	-1.36	-0.02	0.13	-0.28	-1.17	0.46	0.14	-0.55	-1.99	0.06	0.20	-0.02	-0.40	0.60	0.12
140	-0.39	-1.08	0.00	0.11	-0.46	-1.14	-0.06	0.12	-0.48	-1.72	0.32	0.19	-0.97	-2.71	-0.12	0.32	-0.02	-0.47	0.47	0.11
150	-0.40	-1.32	0.00	0.13	-0.45	-1.12	-0.06	0.12	-0.35	-1.48	0.44	0.19	-0.87	-2.64	0.04	0.31	0.00	-0.49	0.56	0.12
160	-0.50	-1.46	-0.06	0.16	-0.54	-1.31	-0.09	0.14	-0.25	-1.18	0.60	0.17	-0.84	-2.16	0.04	0.32	0.07	-0.45	0.66	0.12
170	-0.64	-1.57	-0.06	0.18	-0.57	-1.57	-0.04	0.14	-0.17	-1.30	0.62	0.19	-0.77	-2.41	0.16	0.36	0.13	-0.31	0.92	0.15
180	-0.53	-1.33	-0.12	0.14	-0.49	-1.64	-0.04	0.15	-0.12	-1.12	0.75	0.16	-0.55	-2.23	0.19	0.28	0.12	-0.27	0.84	0.14
190	-0.33	-1.04	0.03	0.10	-0.30	-1.01	0.00	0.11	-0.14	-0.79	0.54	0.11	-0.30	-1.25	0.14	0.14	-0.01	-0.31	0.67	0.10
200	-0.22	-0.74	0.41	0.09	-0.23	-0.74	0.29	0.09	-0.18	-0.72	0.26	0.08	-0.23	-1.07	0.09	0.09	-0.09	-0.41	0.41	0.07
210	-0.21	-0.65	0.38	0.09	-0.22	-0.66	0.21	0.09	-0.25	-0.69	0.24	0.07	-0.23	-0.62	0.48	0.07	-0.19	-0.58	0.25	0.07
220	-0.13	-0.59	0.72	0.13	-0.18	-0.68	0.61	0.13	-0.25	-0.69	0.14	0.07	-0.19	-0.66	0.44	0.11	-0.24	-0.75	0.12	0.07
230	-0.07	-0.45	0.46	0.11	-0.10	-0.62	0.45	0.11	-0.20	-0.55	0.06	0.06	-0.11	-0.44	0.41	0.09	-0.22	-0.61	0.04	0.06
240	-0.11	-0.31	0.42	0.06	-0.12	-0.44	0.27	0.06	-0.15	-0.30	0.02	0.04	-0.13	-0.36	0.23	0.05	-0.16	-0.52	-0.04	0.04
250	-0.13	-0.32	0.16	0.04	-0.13	-0.40	0.19	0.04	-0.14	-0.32	0.02	0.03	-0.13	-0.34	0.18	0.04	-0.13	-0.31	0.00	0.03
260	-0.10	-0.27	0.33	0.04	-0.11	-0.46	0.28	0.05	-0.12	-0.41	0.05	0.04	-0.10	-0.42	0.38	0.05	-0.12	-0.48	0.01	0.04
270	-0.11	-0.45	0.26	0.06	-0.18	-0.88	0.27	0.09	-0.17	-0.68	0.06	0.06	-0.08	-0.58	0.50	0.09	-0.16	-0.58	0.00	0.05
280	-0.17	-0.51	0.36	0.09	-0.48	-1.21	0.35	0.14	-0.41	-1.01	-0.07	0.11	-0.10	-0.94	0.68	0.22	-0.32	-0.91	-0.04	0.09
290	-0.17	-0.47	0.33	0.08	-0.53	-1.11	0.47	0.10	-0.45	-1.05	-0.11	0.11	-0.16	-1.03	0.71	0.23	-0.34	-0.97	-0.02	0.09
300	-0.21	-0.48	0.15	0.07	-0.51	-1.02	-0.13	0.09	-0.41	-0.87	-0.09	0.09	-0.23	-0.99	0.53	0.18	-0.33	-0.86	-0.05	0.09
310	-0.23	-0.50	0.11	0.06	-0.45	-1.05	-0.15	0.09	-0.39	-0.94	-0.10	0.09	-0.32	-0.99	0.41	0.15	-0.30	-0.97	-0.05	0.08
320	-0.22	-0.46	-0.01	0.05	-0.37	-0.98	-0.14	0.07	-0.34	-0.89	-0.05	0.07	-0.33	-0.81	0.29	0.09	-0.29	-0.63	-0.02	0.07
330	-0.22	-0.43	-0.01	0.04	-0.30	-0.81	-0.12	0.06	-0.28	-0.71	-0.10	0.05	-0.29	-0.70	0.02	0.06	-0.25	-0.64	-0.05	0.05
340	-0.20	-0.42	-0.05	0.04	-0.25	-0.64	-0.06	0.05	-0.23	-0.50	-0.08	0.05	-0.24	-0.55	0.06	0.05	-0.23	-0.55	-0.05	0.05
350	-0.19	-0.48	-0.04	0.05	-0.22	-0.58	-0.05	0.05	-0.21	-0.50	-0.05	0.05	-0.22	-0.55	-0.04	0.05	-0.20	-0.46	-0.04	0.05
360	-0.22	-0.71	-0.03	0.06	-0.22	-0.49	0.02	0.06	-0.21	-0.49	0.02	0.05	-0.21	-0.57	-0.04	0.06	-0.20	-0.49	-0.04	0.05

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # B 16 MEAN	MIN	MAX	RMS	TAP # B 17 MEAN	MIN	MAX	RMS	TAP # B 18 MEAN	MIN	MAX	RMS	TAP # B 19 MEAN	MIN	MAX	RMS	TAP # B 20 MEAN	MIN	MAX	RMS
10	-0.17	-0.43	0.00	0.05	-0.16	-0.42	0.03	0.05	-0.19	-0.56	0.06	0.05	-0.17	-0.47	-0.01	0.04	-0.18	-0.44	-0.02	0.05
20	-0.11	-0.35	0.07	0.04	-0.11	-0.45	0.11	0.05	-0.14	-0.52	0.32	0.06	-0.13	-0.52	0.04	0.05	-0.17	-0.59	0.05	0.06
30	-0.10	-0.43	0.09	0.05	-0.10	-0.54	0.13	0.06	-0.11	-0.59	0.46	0.09	-0.14	-0.62	0.08	0.07	-0.19	-0.75	0.16	0.09
40	-0.14	-0.39	0.02	0.05	-0.14	-0.55	0.08	0.07	-0.05	-0.61	0.83	0.13	-0.18	-0.63	0.07	0.08	-0.26	-0.78	0.41	0.12
50	-0.24	-0.44	-0.03	0.05	-0.19	-0.46	0.01	0.05	0.17	-0.36	0.88	0.14	-0.19	-0.56	-0.02	0.06	-0.26	-0.72	0.67	0.12
60	-0.23	-0.68	0.03	0.06	-0.18	-0.42	0.02	0.05	0.35	-0.20	0.96	0.13	-0.13	-0.36	0.08	0.05	-0.03	-0.56	0.82	0.17
70	-0.29	-0.80	0.19	0.09	-0.29	-0.65	-0.08	0.06	0.44	-0.10	1.04	0.12	-0.13	-0.46	0.15	0.06	0.28	-0.35	0.80	0.15
80	-0.14	-0.71	0.26	0.14	-0.34	-1.01	0.07	0.09	0.44	-0.12	1.06	0.12	-0.09	-0.49	0.40	0.10	0.44	-0.33	1.03	0.12
90	0.04	-0.94	0.30	0.07	-0.30	-1.60	0.29	0.14	0.40	-0.15	0.94	0.14	0.09	-0.54	0.71	0.15	0.43	-0.35	0.91	0.15
100	0.07	-0.36	0.45	0.07	-0.27	-1.70	0.46	0.22	0.43	-0.32	1.04	0.14	0.25	-0.56	0.72	0.16	0.48	-0.19	1.07	0.15
110	0.07	-0.30	0.47	0.07	-0.07	-1.43	0.64	0.20	0.31	-0.32	1.01	0.16	0.25	-0.47	0.85	0.15	0.36	-0.38	0.97	0.19
120	0.02	-0.20	0.31	0.06	0.03	-0.70	0.64	0.13	0.16	-0.26	0.80	0.12	0.17	-0.30	0.86	0.13	0.18	-0.42	0.71	0.13
130	0.12	-0.22	0.89	0.12	0.07	-0.31	0.51	0.09	-0.07	-1.11	0.51	0.13	0.01	-0.92	0.56	0.13	-0.11	-1.23	0.59	0.15
140	0.29	-0.21	0.81	0.15	0.27	-0.34	0.85	0.13	-0.11	-1.27	0.58	0.18	0.17	-0.70	1.02	0.20	-0.36	-1.41	0.34	0.18
150	0.26	-0.12	0.91	0.13	0.22	-0.25	0.91	0.13	-0.21	-2.32	0.48	0.26	0.12	-0.61	0.72	0.19	-0.39	-1.25	0.21	0.15
160	0.27	-0.16	0.87	0.13	0.17	-0.36	0.77	0.14	-0.44	-2.09	0.40	0.37	-0.03	-1.39	0.77	0.21	-0.52	-1.71	0.04	0.17
170	0.31	-0.09	1.02	0.14	0.09	-0.30	0.58	0.11	-0.79	-2.75	0.19	0.40	-0.30	-1.47	0.68	0.20	-0.54	-1.76	-0.07	0.15
180	0.24	-0.15	0.91	0.14	0.04	-0.43	0.47	0.11	-0.73	-2.08	0.04	0.31	-0.26	-1.61	0.67	0.18	-0.46	-1.23	-0.04	0.13
190	0.07	-0.22	0.77	0.11	-0.06	-0.49	0.53	0.09	-0.41	-1.77	0.04	0.18	-0.22	-1.03	0.59	0.14	-0.33	-1.11	0.04	0.11
200	0.01	-0.29	0.62	0.09	-0.11	-0.37	0.24	0.06	-0.35	-1.12	-0.05	0.12	-0.24	-0.92	0.39	0.10	-0.27	-0.89	-0.01	0.09
210	-0.06	-0.45	0.49	0.10	-0.11	-0.46	0.42	0.07	-0.33	-1.07	0.02	0.10	-0.24	-0.90	0.22	0.11	-0.28	-1.01	0.01	0.09
220	-0.16	-0.58	0.30	0.09	-0.15	-0.59	0.34	0.09	-0.29	-0.96	-0.03	0.09	-0.26	-0.78	0.31	0.10	-0.24	-0.67	0.05	0.08
230	-0.17	-0.55	0.22	0.05	-0.15	-0.44	0.25	0.06	-0.20	-0.57	-0.02	0.06	-0.18	-0.63	0.13	0.06	-0.17	-0.49	0.04	0.05
240	-0.14	-0.35	0.08	0.03	-0.13	-0.33	0.13	0.04	-0.13	-0.36	0.04	0.04	-0.13	-0.42	0.06	0.04	-0.13	-0.30	0.01	0.03
250	-0.13	-0.41	0.02	0.03	-0.13	-0.34	0.03	0.04	-0.12	-0.29	0.01	0.03	-0.13	-0.30	0.05	0.03	-0.12	-0.38	0.02	0.03
260	-0.11	-0.39	0.06	0.03	-0.11	-0.34	0.04	0.04	-0.11	-0.34	0.00	0.03	-0.11	-0.43	0.02	0.04	-0.11	-0.36	0.00	0.03
270	-0.14	-0.45	0.03	0.04	-0.13	-0.41	0.01	0.04	-0.12	-0.42	0.01	0.04	-0.12	-0.34	-0.01	0.03	-0.12	-0.39	0.02	0.03
280	-0.31	-0.80	-0.01	0.08	-0.24	-0.67	0.00	0.08	-0.20	-0.53	-0.02	0.05	-0.20	-0.48	-0.03	0.05	-0.18	-0.40	-0.01	0.04
290	-0.34	-0.83	-0.07	0.07	-0.30	-0.74	-0.04	0.08	-0.23	-0.69	-0.02	0.05	-0.23	-0.51	-0.03	0.05	-0.21	-0.48	-0.06	0.04
300	-0.33	-0.96	-0.11	0.07	-0.29	-0.65	-0.07	0.07	-0.24	-0.52	-0.05	0.05	-0.25	-0.50	-0.09	0.05	-0.23	-0.44	-0.10	0.04
310	-0.31	-0.82	-0.10	0.06	-0.28	-0.75	-0.10	0.07	-0.25	-0.51	-0.08	0.05	-0.26	-0.50	-0.09	0.05	-0.25	-0.54	-0.10	0.04
320	-0.27	-0.53	-0.08	0.06	-0.27	-0.65	-0.07	0.06	-0.26	-0.55	-0.08	0.05	-0.26	-0.52	-0.11	0.04	-0.27	-0.52	-0.07	0.05
330	-0.25	-0.47	-0.10	0.05	-0.26	-0.53	-0.09	0.05	-0.26	-0.53	-0.09	0.05	-0.26	-0.54	-0.08	0.05	-0.27	-0.64	-0.02	0.06
340	-0.22	-0.43	-0.07	0.04	-0.24	-0.54	-0.05	0.05	-0.24	-0.66	-0.01	0.05	-0.23	-0.52	-0.08	0.05	-0.26	-0.67	-0.01	0.07
350	-0.21	-0.41	-0.03	0.05	-0.22	-0.66	-0.05	0.06	-0.22	-0.68	-0.05	0.06	-0.22	-0.59	-0.07	0.06	-0.24	-0.63	0.05	0.06
360	-0.20	-0.39	-0.05	0.04	-0.20	-0.69	0.00	0.05	-0.21	-0.57	-0.03	0.05	-0.20	-0.53	-0.02	0.05	-0.21	-0.53	-0.05	0.05

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # B 21 MEAN	MIN	MAX	RMS	TAP # B 22 MEAN	MIN	MAX	RMS	TAP # B 23 MEAN	MIN	MAX	RMS	TAP # B 24 MEAN	MIN	MAX	RMS	TAP # C 1 MEAN	MIN	MAX	RMS
10	-0.14	-0.40	0.03	0.04	-0.06	-0.31	0.20	0.05	-0.29	-1.29	0.23	0.15	-0.04	-0.98	0.58	0.14	0.16	-0.73	0.89	0.18
20	-0.10	-0.34	0.08	0.04	0.03	-0.18	0.44	0.07	-0.06	-0.71	0.47	0.13	0.11	-0.46	0.67	0.14	0.25	-0.20	0.80	0.13
30	-0.07	-0.33	0.25	0.05	0.09	-0.20	0.46	0.08	0.12	-0.67	0.80	0.14	0.21	-0.35	0.91	0.15	0.21	-0.20	0.96	0.11
40	-0.04	-0.29	0.32	0.06	0.18	-0.13	0.60	0.10	0.28	-0.29	0.82	0.14	0.32	-0.17	0.88	0.13	0.25	-0.04	0.84	0.12
50	0.06	-0.15	0.44	0.07	0.41	0.05	0.85	0.10	0.50	-0.01	0.91	0.11	0.48	0.01	0.93	0.11	0.38	0.04	0.89	0.10
60	0.21	-0.10	0.61	0.09	0.47	0.07	0.88	0.10	0.48	0.06	0.95	0.10	0.45	-0.07	0.94	0.11	0.32	-0.05	0.66	0.08
70	0.37	0.01	0.88	0.10	0.52	0.08	0.96	0.11	0.40	-0.01	0.84	0.11	0.31	-0.47	0.92	0.16	0.14	-0.18	0.56	0.08
80	0.43	0.00	0.85	0.11	0.50	0.03	1.04	0.12	0.27	-0.17	0.67	0.11	0.05	-0.58	0.81	0.17	0.01	-0.36	0.38	0.07
90	0.43	-0.22	0.96	0.15	0.43	-0.13	0.96	0.14	0.14	-0.38	0.64	0.11	-0.14	-0.90	0.83	0.19	-0.09	-0.57	0.23	0.07
100	0.46	-0.38	1.01	0.15	0.38	-0.23	0.83	0.12	0.00	-0.37	0.44	0.09	-0.35	-0.97	0.49	0.14	-0.17	-0.78	0.10	0.10
110	0.31	-0.41	0.94	0.19	0.24	-0.27	0.72	0.14	-0.11	-0.46	0.31	0.08	-0.38	-0.98	0.35	0.13	-0.22	-0.92	0.17	0.10
120	0.09	-0.44	0.78	0.13	0.06	-0.35	0.53	0.10	-0.19	-0.44	0.20	0.06	-0.40	-0.98	0.06	0.11	-0.25	-0.84	-0.03	0.07
130	-0.16	-1.01	0.46	0.16	-0.09	-0.45	0.37	0.08	-0.22	-0.48	0.10	0.05	-0.33	-0.76	0.04	0.07	-0.25	-0.55	-0.03	0.05
140	-0.52	-1.43	0.12	0.18	-0.21	-0.56	0.10	0.06	-0.29	-0.58	-0.10	0.06	-0.34	-1.05	-0.11	0.07	-0.30	-0.76	-0.08	0.06
150	-0.55	-1.36	0.05	0.16	-0.24	-0.64	0.05	0.06	-0.25	-0.53	-0.06	0.05	-0.28	-0.73	-0.04	0.06	-0.25	-0.70	-0.06	0.05
160	-0.63	-1.59	-0.20	0.16	-0.28	-0.66	-0.09	0.07	-0.26	-0.56	-0.07	0.05	-0.28	-0.68	0.00	0.06	-0.24	-0.63	-0.03	0.06
170	-0.57	-1.50	-0.04	0.16	-0.33	-0.77	-0.03	0.08	-0.28	-0.69	-0.06	0.06	-0.29	-0.70	0.09	0.07	-0.23	-0.71	-0.03	0.06
180	-0.44	-1.39	0.03	0.15	-0.32	-0.92	0.04	0.09	-0.28	-0.92	0.00	0.08	-0.25	-0.69	0.05	0.07	-0.21	-0.59	-0.04	0.05
190	-0.31	-1.10	0.01	0.11	-0.23	-0.78	0.05	0.07	-0.20	-0.74	0.10	0.06	-0.19	-0.54	0.01	0.05	-0.17	-0.42	-0.03	0.04
200	-0.25	-1.15	-0.01	0.08	-0.21	-0.57	-0.01	0.05	-0.19	-0.63	-0.01	0.04	-0.18	-0.62	-0.01	0.05	-0.17	-0.38	-0.01	0.04
210	-0.27	-0.89	-0.01	0.08	-0.20	-0.62	0.05	0.06	-0.20	-0.76	-0.02	0.05	-0.19	-0.49	-0.02	0.05	-0.18	-0.42	0.01	0.04
220	-0.23	-0.73	0.02	0.08	-0.18	-0.73	0.03	0.06	-0.18	-0.54	0.01	0.05	-0.18	-0.49	-0.03	0.05	-0.16	-0.35	-0.03	0.04
230	-0.16	-0.53	0.01	0.05	-0.15	-0.44	0.02	0.04	-0.15	-0.38	0.00	0.04	-0.14	-0.29	-0.01	0.03	-0.14	-0.28	-0.01	0.03
240	-0.13	-0.43	0.03	0.04	-0.12	-0.24	0.03	0.03	-0.12	-0.28	0.05	0.03	-0.12	-0.27	0.02	0.03	-0.11	-0.25	0.02	0.03
250	-0.12	-0.36	0.01	0.03	-0.12	-0.26	0.03	0.03	-0.11	-0.27	0.03	0.03	-0.10	-0.28	0.05	0.03	-0.09	-0.32	0.02	0.03
260	-0.11	-0.36	0.02	0.03	-0.11	-0.28	0.02	0.04	-0.11	-0.27	0.03	0.03	-0.11	-0.36	0.03	0.04	-0.11	-0.47	0.01	0.03
270	-0.12	-0.28	0.01	0.03	-0.11	-0.25	0.01	0.03	-0.11	-0.28	0.03	0.03	-0.11	-0.27	0.02	0.03	-0.11	-0.34	0.00	0.03
280	-0.18	-0.42	-0.05	0.04	-0.16	-0.35	-0.03	0.03	-0.15	-0.29	-0.02	0.03	-0.15	-0.30	-0.02	0.03	-0.17	-0.32	-0.03	0.03
290	-0.20	-0.44	-0.06	0.04	-0.19	-0.36	-0.06	0.03	-0.20	-0.37	-0.07	0.03	-0.20	-0.41	-0.06	0.04	-0.24	-0.46	-0.09	0.04
300	-0.23	-0.44	-0.10	0.04	-0.22	-0.40	-0.11	0.03	-0.23	-0.41	-0.10	0.04	-0.23	-0.45	-0.07	0.04	-0.27	-0.51	-0.12	0.04
310	-0.25	-0.50	-0.10	0.04	-0.24	-0.54	-0.08	0.04	-0.25	-0.52	-0.09	0.05	-0.25	-0.58	-0.06	0.05	-0.30	-0.59	-0.14	0.05
320	-0.27	-0.91	-0.08	0.06	-0.26	-0.81	-0.06	0.06	-0.27	-0.66	-0.05	0.07	-0.29	-0.78	-0.05	0.07	-0.37	-0.83	-0.08	0.07
330	-0.28	-0.84	-0.02	0.08	-0.31	-0.79	0.00	0.08	-0.32	-0.96	-0.01	0.10	-0.36	-0.86	-0.02	0.10	-0.40	-0.94	-0.10	0.09
340	-0.25	-0.73	-0.01	0.07	-0.31	-0.76	0.04	0.08	-0.42	-1.41	0.05	0.14	-0.42	-1.20	0.02	0.13	-0.38	-0.84	0.21	0.10
350	-0.23	-0.57	0.00	0.06	-0.25	-0.67	0.03	0.07	-0.55	-1.91	0.05	0.18	-0.41	-1.34	0.09	0.15	-0.34	-1.10	0.46	0.16
360	-0.20	-0.50	-0.06	0.05	-0.17	-0.44	0.06	0.06	-0.51	-1.34	0.10	0.18	-0.23	-1.23	0.24	0.15	-0.08	-0.92	0.76	0.20

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # C 2 MEAN	MIN	MAX	RMS	TAP # C 3 MEAN	MIN	MAX	RMS	TAP # C 4 MEAN	MIN	MAX	RMS	TAP # C 5 MEAN	MIN	MAX	RMS	TAP # C 6 MEAN	MIN	MAX	RMS
10	0.11	-0.65	0.76	0.16	0.26	-0.19	0.93	0.13	0.23	-0.08	0.87	0.12	-0.02	-0.29	0.40	0.08	-0.37	-1.00	0.06	0.12
20	0.19	-0.29	1.02	0.12	0.27	-0.50	0.92	0.14	0.21	-0.06	0.72	0.10	-0.05	-0.33	0.25	0.06	-0.29	-0.72	-0.04	0.08
30	0.20	-0.16	0.95	0.11	0.10	-0.46	0.74	0.14	0.10	-0.12	0.49	0.07	-0.04	-0.23	0.25	0.05	-0.16	-0.59	0.06	0.07
40	0.26	-0.07	0.74	0.11	-0.04	-0.67	0.63	0.15	0.07	-0.19	0.49	0.06	-0.02	-0.19	0.13	0.04	-0.06	-0.39	0.15	0.04
50	0.40	0.00	0.87	0.10	-0.25	-0.84	0.26	0.11	0.04	-0.48	0.26	0.07	-0.01	-0.20	0.13	0.03	-0.04	-0.20	0.11	0.03
60	0.40	-0.01	0.90	0.11	-0.38	-1.15	-0.08	0.09	-0.08	-0.58	0.16	0.11	-0.02	-0.24	0.17	0.04	-0.03	-0.20	0.13	0.03
70	0.31	-0.27	0.79	0.13	-0.42	-0.92	-0.07	0.10	-0.28	-0.90	0.17	0.12	-0.09	-0.55	0.21	0.07	-0.07	-0.46	0.07	0.04
80	0.22	-0.32	0.85	0.14	-0.31	-1.01	-0.04	0.09	-0.32	-0.80	0.05	0.09	-0.16	-0.65	0.18	0.08	-0.11	-0.43	0.06	0.05
90	0.14	-0.66	0.79	0.14	-0.28	-0.81	0.01	0.08	-0.33	-0.88	0.07	0.09	-0.21	-0.67	0.08	0.09	-0.16	-0.47	0.07	0.05
100	0.04	-0.74	0.63	0.15	-0.23	-0.60	0.00	0.06	-0.26	-0.70	-0.05	0.07	-0.25	-0.72	0.13	0.08	-0.21	-0.47	0.06	0.06
110	-0.03	-0.79	0.57	0.15	-0.21	-0.57	0.03	0.06	-0.22	-0.61	-0.01	0.06	-0.21	-0.70	0.00	0.06	-0.20	-0.49	0.02	0.06
120	-0.15	-0.56	0.41	0.09	-0.18	-0.58	0.04	0.05	-0.18	-0.35	-0.02	0.04	-0.18	-0.42	0.01	0.04	-0.19	-0.45	-0.01	0.04
130	-0.22	-0.53	0.17	0.06	-0.20	-0.46	0.01	0.04	-0.21	-0.40	-0.05	0.04	-0.20	-0.37	-0.02	0.04	-0.22	-0.52	0.00	0.05
140	-0.32	-0.81	-0.12	0.06	-0.28	-0.53	-0.02	0.05	-0.28	-0.54	-0.07	0.05	-0.31	-0.62	-0.09	0.06	-0.33	-0.68	0.03	0.07
150	-0.26	-0.60	-0.08	0.06	-0.24	-0.64	-0.06	0.06	-0.24	-0.47	-0.08	0.05	-0.27	-0.68	-0.07	0.06	-0.29	-0.69	-0.03	0.07
160	-0.25	-0.64	-0.08	0.06	-0.24	-0.58	-0.06	0.05	-0.24	-0.53	-0.05	0.05	-0.28	-0.61	-0.07	0.06	-0.30	-0.72	-0.07	0.07
170	-0.27	-0.69	0.02	0.07	-0.23	-0.57	-0.04	0.06	-0.25	-0.45	-0.06	0.05	-0.25	-0.57	-0.05	0.05	-0.27	-0.82	-0.04	0.07
180	-0.23	-0.62	0.00	0.06	-0.20	-0.53	-0.02	0.05	-0.21	-0.40	-0.05	0.04	-0.22	-0.49	-0.07	0.04	-0.24	-0.59	0.00	0.06
190	-0.18	-0.51	0.01	0.05	-0.16	-0.33	-0.02	0.03	-0.16	-0.35	-0.01	0.03	-0.16	-0.38	0.03	0.04	-0.19	-0.47	-0.04	0.04
200	-0.17	-0.42	-0.03	0.04	-0.16	-0.36	-0.04	0.03	-0.16	-0.36	-0.02	0.03	-0.16	-0.44	0.02	0.05	-0.16	-0.52	0.17	0.05
210	-0.18	-0.40	-0.03	0.04	-0.16	-0.46	-0.02	0.04	-0.18	-0.46	-0.02	0.04	-0.18	-0.49	0.04	0.05	-0.15	-0.56	0.40	0.07
220	-0.16	-0.36	-0.02	0.03	-0.16	-0.32	-0.01	0.03	-0.16	-0.34	-0.02	0.03	-0.16	-0.48	0.02	0.04	-0.14	-0.53	0.24	0.07
230	-0.14	-0.30	-0.03	0.03	-0.13	-0.35	-0.02	0.03	-0.14	-0.27	-0.02	0.03	-0.14	-0.44	0.03	0.04	-0.14	-0.41	0.16	0.05
240	-0.11	-0.23	0.00	0.03	-0.11	-0.24	0.01	0.03	-0.12	-0.25	0.00	0.03	-0.12	-0.29	0.00	0.03	-0.12	-0.39	0.15	0.04
250	-0.10	-0.25	0.00	0.03	-0.10	-0.30	0.03	0.03	-0.10	-0.25	0.03	0.03	-0.11	-0.27	0.06	0.03	-0.12	-0.31	0.10	0.04
260	-0.10	-0.28	0.01	0.03	-0.10	-0.26	0.01	0.03	-0.10	-0.25	0.12	0.03	-0.12	-0.51	0.13	0.05	-0.08	-0.33	0.29	0.04
270	-0.11	-0.27	0.00	0.03	-0.09	-0.26	0.04	0.03	-0.04	-0.24	0.23	0.05	-0.07	-0.81	0.46	0.10	0.02	-0.25	0.69	0.09
280	-0.16	-0.32	-0.02	0.04	-0.13	-0.27	0.01	0.03	0.01	-0.26	0.30	0.05	-0.16	-1.09	0.49	0.17	0.27	-0.12	0.97	0.13
290	-0.22	-0.38	-0.07	0.04	-0.16	-0.31	0.07	0.04	0.02	-0.25	0.28	0.05	-0.15	-0.92	0.51	0.16	0.32	-0.03	0.86	0.12
300	-0.25	-0.50	-0.11	0.04	-0.16	-0.37	0.04	0.04	0.06	-0.23	0.58	0.08	-0.01	-0.75	0.72	0.20	0.29	-0.11	0.90	0.12
310	-0.28	-0.52	-0.14	0.05	-0.15	-0.42	0.19	0.05	0.10	-0.14	0.67	0.09	0.18	-0.44	0.84	0.17	0.27	-0.13	1.06	0.13
320	-0.34	-0.77	-0.12	0.07	-0.12	-0.38	0.27	0.07	0.16	-0.13	0.76	0.11	0.23	-0.34	0.89	0.13	0.25	-0.23	0.68	0.13
330	-0.40	-0.94	-0.14	0.08	-0.07	-0.37	0.31	0.08	0.25	-0.10	0.93	0.13	0.31	-0.22	0.96	0.14	0.13	-0.55	0.69	0.13
340	-0.39	-0.98	-0.01	0.10	-0.03	-0.40	0.50	0.09	0.23	-0.07	0.78	0.11	0.24	-0.08	0.77	0.11	0.03	-0.79	0.54	0.15
350	-0.34	-0.92	0.30	0.13	0.04	-0.27	0.66	0.11	0.29	-0.05	0.96	0.13	0.18	-0.15	0.71	0.11	-0.13	-1.01	0.45	0.14
360	-0.15	-0.85	0.53	0.16	0.14	-0.27	0.72	0.13	0.26	-0.10	0.87	0.13	0.05	-0.26	0.44	0.08	-0.34	-1.07	0.31	0.17

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # C 7 MEAN	MIN	MAX	RMS	TAP # C 8 MEAN	MIN	MAX	RMS	TAP # C 9 MEAN	MIN	MAX	RMS	TAP # C 10 MEAN	MIN	MAX	RMS	TAP # C 11 MEAN	MIN	MAX	RMS
10	-0.42	-1.09	0.23	0.14	-0.34	-0.83	0.00	0.11	-0.36	-0.92	-0.04	0.11	-0.27	-0.82	-0.02	0.09	-0.21	-0.59	0.00	0.07
20	-0.30	-0.82	0.05	0.09	-0.27	-0.67	0.03	0.09	-0.26	-0.70	0.07	0.09	-0.23	-0.80	0.00	0.08	-0.21	-0.59	0.02	0.08
30	-0.17	-0.59	0.05	0.07	-0.16	-0.53	0.03	0.06	-0.15	-0.52	0.09	0.06	-0.14	-0.52	0.03	0.06	-0.12	-0.44	0.05	0.05
40	-0.08	-0.36	0.07	0.04	-0.08	-0.38	0.07	0.05	-0.07	-0.33	0.08	0.04	-0.08	-0.40	0.07	0.04	-0.07	-0.35	0.09	0.04
50	-0.05	-0.22	0.09	0.03	-0.05	-0.21	0.12	0.03	-0.05	-0.22	0.10	0.03	-0.07	-0.23	0.07	0.03	-0.09	-0.42	0.08	0.04
60	-0.04	-0.23	0.12	0.04	-0.03	-0.18	0.11	0.03	-0.04	-0.17	0.10	0.03	-0.04	-0.16	0.11	0.03	-0.06	-0.22	0.14	0.04
70	-0.08	-0.39	0.09	0.04	-0.07	-0.24	0.12	0.04	-0.06	-0.24	0.06	0.03	-0.07	-0.18	0.06	0.03	-0.08	-0.30	0.07	0.04
80	-0.12	-0.36	0.04	0.05	-0.11	-0.34	0.11	0.04	-0.11	-0.33	0.05	0.04	-0.12	-0.32	0.06	0.04	-0.14	-0.43	0.01	0.05
90	-0.16	-0.49	0.04	0.05	-0.15	-0.42	0.05	0.05	-0.17	-0.55	0.02	0.06	-0.21	-0.63	0.02	0.07	-0.21	-0.68	0.06	0.07
100	-0.21	-0.49	0.08	0.06	-0.23	-0.69	0.03	0.07	-0.24	-0.55	-0.02	0.07	-0.28	-0.89	0.00	0.08	-0.31	-0.90	0.03	0.09
110	-0.20	-0.47	0.02	0.05	-0.23	-0.53	-0.01	0.06	-0.25	-0.52	-0.05	0.06	-0.26	-0.79	-0.03	0.07	-0.28	-0.69	-0.04	0.07
120	-0.18	-0.37	-0.01	0.04	-0.20	-0.45	-0.02	0.05	-0.21	-0.53	-0.01	0.05	-0.24	-0.62	-0.02	0.06	-0.27	-0.66	-0.03	0.07
130	-0.21	-0.48	-0.02	0.05	-0.25	-0.64	-0.03	0.06	-0.26	-0.70	0.00	0.07	-0.27	-0.83	0.09	0.07	-0.31	-0.74	0.01	0.08
140	-0.33	-0.67	-0.07	0.07	-0.35	-0.79	-0.04	0.07	-0.36	-0.96	-0.02	0.08	-0.41	-0.96	-0.15	0.08	-0.50	-1.09	-0.14	0.10
150	-0.30	-0.67	-0.09	0.06	-0.30	-0.73	-0.05	0.07	-0.32	-0.76	-0.10	0.08	-0.36	-0.82	-0.05	0.08	-0.44	-1.11	-0.03	0.11
160	-0.28	-0.68	-0.08	0.06	-0.31	-0.72	-0.02	0.07	-0.31	-0.72	-0.01	0.07	-0.39	-0.82	-0.08	0.08	-0.49	-1.16	-0.12	0.11
170	-0.27	-0.59	-0.07	0.06	-0.26	-0.73	-0.04	0.07	-0.30	-0.65	-0.04	0.07	-0.36	-0.80	-0.08	0.09	-0.51	-1.25	-0.17	0.12
180	-0.23	-0.53	-0.06	0.05	-0.26	-0.80	-0.05	0.06	-0.24	-0.56	-0.07	0.05	-0.28	-0.76	-0.01	0.07	-0.46	-1.16	-0.07	0.12
190	-0.17	-0.38	-0.01	0.04	-0.19	-0.46	-0.03	0.04	-0.19	-0.45	0.00	0.04	-0.20	-0.56	0.13	0.05	-0.29	-0.73	0.01	0.08
200	-0.13	-0.58	0.05	0.05	-0.19	-0.77	0.16	0.06	-0.17	-0.65	0.19	0.06	-0.19	-0.65	0.25	0.07	-0.22	-0.80	0.35	0.09
210	-0.21	-0.52	0.02	0.06	-0.22	-0.72	0.31	0.08	-0.17	-0.69	0.39	0.08	-0.13	-0.64	0.35	0.11	-0.20	-0.74	0.62	0.12
220	-0.20	-0.50	0.02	0.05	-0.26	-0.65	0.29	0.08	-0.15	-0.43	0.26	0.07	-0.06	-0.49	0.60	0.11	-0.08	-0.62	0.54	0.11
230	-0.17	-0.46	0.01	0.04	-0.21	-0.79	0.02	0.06	-0.15	-0.37	0.13	0.05	-0.09	-0.30	0.44	0.07	-0.09	-0.38	0.51	0.08
240	-0.14	-0.32	-0.01	0.04	-0.15	-0.46	0.00	0.04	-0.13	-0.35	0.08	0.04	-0.11	-0.31	0.26	0.05	-0.12	-0.37	0.21	0.05
250	-0.12	-0.40	0.07	0.04	-0.12	-0.43	0.04	0.04	-0.12	-0.34	0.07	0.04	-0.11	-0.36	0.17	0.04	-0.11	-0.31	0.27	0.04
260	-0.09	-0.26	0.25	0.04	-0.09	-0.34	0.12	0.04	-0.09	-0.30	0.20	0.04	-0.09	-0.24	0.14	0.04	-0.10	-0.31	0.11	0.04
270	0.03	-0.23	0.60	0.09	0.00	-0.44	0.67	0.09	-0.04	-0.43	0.45	0.07	-0.04	-0.30	0.39	0.05	-0.12	-0.46	0.12	0.05
280	0.31	-0.09	0.85	0.12	0.29	-0.16	0.83	0.12	0.19	-0.26	0.70	0.13	0.11	-0.25	0.61	0.09	-0.19	-0.49	0.21	0.07
290	0.34	-0.09	0.89	0.12	0.36	-0.21	1.01	0.13	0.28	-0.20	0.81	0.13	0.18	-0.20	0.76	0.09	-0.19	-0.46	0.13	0.07
300	0.30	-0.05	0.94	0.13	0.27	-0.39	0.84	0.15	0.16	-0.35	0.73	0.16	0.10	-0.20	0.55	0.10	-0.21	-0.54	0.16	0.06
310	0.27	-0.05	0.85	0.12	0.15	-0.31	0.73	0.13	0.04	-0.55	0.73	0.13	0.03	-0.22	0.58	0.08	-0.24	-0.51	0.04	0.06
320	0.26	-0.26	0.86	0.12	0.06	-0.48	0.69	0.14	-0.06	-0.68	0.62	0.12	-0.03	-0.32	0.38	0.07	-0.24	-0.53	-0.04	0.05
330	0.22	-0.54	0.79	0.16	-0.07	-0.66	0.48	0.12	-0.21	-1.03	0.40	0.15	-0.09	-0.46	0.18	0.06	-0.23	-0.48	-0.05	0.05
340	0.09	-0.88	0.83	0.20	-0.14	-0.68	0.33	0.11	-0.29	-1.13	0.13	0.14	-0.12	-0.56	0.19	0.07	-0.22	-0.53	-0.04	0.05
350	-0.10	-1.08	0.69	0.20	-0.22	-0.73	0.24	0.11	-0.40	-1.07	0.07	0.14	-0.18	-0.65	0.07	0.08	-0.20	-0.48	-0.05	0.05
360	-0.32	-1.39	0.43	0.20	-0.31	-1.07	0.08	0.14	-0.37	-1.13	-0.06	0.12	-0.22	-0.79	0.03	0.09	-0.22	-0.56	-0.04	0.06

M H T R

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # C 12 MEAN	MIN	MAX	RMS	TAP # C 13 MEAN	MIN	MAX	RMS	TAP # C 14 MEAN	MIN	MAX	RMS	TAP # C 15 MEAN	MIN	MAX	RMS	TAP # C 16 MEAN	MIN	MAX	RMS
10	-0.24	-0.82	0.02	0.07	-0.22	-0.60	0.00	0.07	-0.21	-0.51	0.05	0.06	-0.21	-0.56	0.00	0.06	-0.16	-0.44	0.06	0.05
20	-0.18	-0.52	0.06	0.07	-0.15	-0.47	0.04	0.06	-0.14	-0.45	0.09	0.06	-0.16	-0.67	0.02	0.06	-0.11	-0.35	0.05	0.05
30	-0.10	-0.55	0.13	0.05	-0.09	-0.36	0.09	0.05	-0.08	-0.32	0.09	0.04	-0.13	-0.64	0.09	0.06	-0.10	-0.43	0.07	0.05
40	-0.07	-0.28	0.08	0.04	-0.07	-0.35	0.05	0.04	-0.07	-0.28	0.11	0.04	-0.12	-0.44	0.08	0.06	-0.12	-0.40	0.05	0.05
50	-0.08	-0.36	0.11	0.04	-0.08	-0.34	0.16	0.05	-0.08	-0.34	0.14	0.05	-0.14	-0.50	0.20	0.07	-0.19	-0.65	0.00	0.06
60	-0.06	-0.30	0.09	0.04	-0.07	-0.29	0.15	0.04	-0.08	-0.42	0.08	0.05	-0.12	-0.57	0.19	0.08	-0.25	-0.79	0.17	0.09
70	-0.08	-0.31	0.12	0.04	-0.09	-0.32	0.07	0.04	-0.08	-0.40	0.07	0.04	-0.07	-0.52	0.23	0.07	-0.28	-0.76	0.32	0.13
80	-0.14	-0.37	0.01	0.05	-0.14	-0.46	0.01	0.05	-0.13	-0.35	0.02	0.05	-0.07	-0.40	0.23	0.05	-0.11	-0.78	0.33	0.14
90	-0.23	-0.82	0.08	0.08	-0.23	-0.65	0.00	0.07	-0.22	-0.50	-0.01	0.07	-0.10	-0.45	0.23	0.06	0.03	-0.65	0.40	0.09
100	-0.33	-0.94	0.03	0.09	-0.34	-0.79	-0.04	0.09	-0.34	-0.76	-0.04	0.09	-0.15	-0.49	0.18	0.07	0.04	-0.45	0.49	0.07
110	-0.28	-0.75	0.01	0.08	-0.31	-0.73	0.00	0.08	-0.29	-0.75	-0.04	0.07	-0.13	-0.40	0.09	0.05	0.06	-0.24	0.38	0.06
120	-0.28	-0.67	0.00	0.07	-0.30	-0.79	0.17	0.07	-0.29	-0.70	-0.02	0.07	-0.13	-0.35	0.30	0.05	0.02	-0.15	0.41	0.05
130	-0.31	-0.82	0.07	0.09	-0.34	-0.85	0.54	0.09	-0.33	-0.71	-0.04	0.08	-0.05	-0.38	0.47	0.09	0.14	-0.16	0.83	0.11
140	-0.49	-0.99	-0.16	0.10	-0.50	-1.17	0.31	0.12	-0.48	-0.94	-0.04	0.11	-0.09	-0.43	0.41	0.09	0.25	-0.15	1.16	0.13
150	-0.44	-1.02	-0.03	0.10	-0.42	-0.88	0.28	0.13	-0.42	-1.02	-0.01	0.12	-0.04	-0.44	0.48	0.11	0.19	-0.15	0.82	0.12
160	-0.45	-0.93	-0.10	0.10	-0.41	-1.13	0.25	0.13	-0.41	-0.86	0.03	0.11	0.05	-0.44	0.52	0.11	0.24	-0.09	0.89	0.14
170	-0.44	-0.97	-0.13	0.10	-0.40	-1.17	0.52	0.16	-0.38	-0.86	0.05	0.12	0.04	-0.39	0.65	0.11	0.27	-0.11	0.87	0.13
180	-0.36	-0.90	-0.08	0.09	-0.33	-1.17	0.51	0.15	-0.32	-0.88	0.11	0.11	0.02	-0.26	0.65	0.10	0.19	-0.15	0.91	0.12
190	-0.25	-0.67	0.00	0.07	-0.20	-0.61	0.33	0.10	-0.21	-0.77	0.09	0.07	-0.04	-0.26	0.44	0.07	0.03	-0.21	0.63	0.07
200	-0.20	-0.60	0.43	0.07	-0.19	-0.76	0.28	0.08	-0.20	-0.52	0.08	0.06	-0.06	-0.28	0.32	0.06	0.02	-0.20	0.32	0.06
210	-0.16	-0.63	0.59	0.11	-0.21	-0.73	0.28	0.11	-0.20	-0.81	0.50	0.10	-0.09	-0.62	0.30	0.07	0.03	-0.35	0.45	0.07
220	-0.09	-0.56	0.57	0.12	-0.15	-0.82	0.27	0.09	-0.13	-0.60	0.43	0.12	-0.14	-1.00	0.22	0.10	-0.03	-0.47	0.43	0.09
230	-0.09	-0.50	0.40	0.07	-0.12	-0.46	0.27	0.06	-0.10	-0.29	0.34	0.06	-0.18	-0.75	0.12	0.08	-0.11	-0.32	0.24	0.05
240	-0.12	-0.34	0.26	0.06	-0.14	-0.38	0.16	0.04	-0.11	-0.32	0.27	0.05	-0.17	-0.75	0.02	0.05	-0.13	-0.37	0.05	0.04
250	-0.12	-0.26	0.17	0.04	-0.12	-0.31	0.05	0.03	-0.12	-0.27	0.14	0.03	-0.13	-0.35	0.05	0.03	-0.12	-0.30	0.08	0.04
260	-0.11	-0.46	0.10	0.04	-0.11	-0.28	0.08	0.03	-0.10	-0.25	0.12	0.03	-0.11	-0.24	0.02	0.03	-0.10	-0.24	0.04	0.03
270	-0.20	-0.81	0.17	0.09	-0.16	-0.60	0.09	0.06	-0.11	-0.57	0.28	0.07	-0.14	-0.51	0.00	0.04	-0.12	-0.35	0.01	0.03
280	-0.47	-1.08	0.06	0.12	-0.37	-0.91	-0.06	0.11	-0.25	-0.84	0.43	0.15	-0.28	-0.82	-0.02	0.07	-0.28	-0.63	-0.06	0.06
290	-0.56	-1.04	0.10	0.10	-0.43	-1.08	-0.04	0.11	-0.31	-0.94	0.29	0.16	-0.33	-0.79	-0.09	0.07	-0.33	-0.65	-0.11	0.06
300	-0.53	-1.01	-0.17	0.09	-0.41	-0.96	-0.15	0.09	-0.32	-0.85	0.39	0.14	-0.33	-0.77	-0.07	0.07	-0.32	-0.79	-0.13	0.06
310	-0.47	-0.99	-0.19	0.09	-0.39	-0.92	-0.13	0.08	-0.34	-0.82	0.30	0.13	-0.32	-0.64	-0.10	0.07	-0.32	-0.64	-0.11	0.06
320	-0.40	-0.89	-0.19	0.08	-0.37	-0.75	-0.08	0.07	-0.37	-0.83	0.12	0.08	-0.31	-0.84	-0.05	0.07	-0.31	-0.75	-0.12	0.07
330	-0.34	-0.74	-0.16	0.06	-0.31	-0.60	-0.12	0.06	-0.31	-0.68	0.04	0.06	-0.28	-0.55	-0.05	0.06	-0.28	-0.56	-0.08	0.05
340	-0.29	-0.67	-0.10	0.06	-0.25	-0.49	-0.06	0.05	-0.27	-0.70	-0.04	0.06	-0.24	-0.55	-0.03	0.05	-0.22	-0.46	-0.06	0.04
350	-0.24	-0.73	-0.04	0.06	-0.21	-0.51	-0.06	0.05	-0.23	-0.52	0.04	0.06	-0.19	-0.46	-0.04	0.05	-0.19	-0.39	-0.03	0.04
360	-0.24	-0.68	-0.06	0.06	-0.22	-0.63	-0.03	0.06	-0.22	-0.53	0.00	0.06	-0.21	-0.54	0.00	0.06	-0.18	-0.39	0.02	0.05

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # C 17 MEAN	MIN	MAX	RMS	TAP # C 18 MEAN	MIN	MAX	RMS	TAP # C 19 MEAN	MIN	MAX	RMS	TAP # C 20 MEAN	MIN	MAX	RMS	TAP # C 21 MEAN	MIN	MAX	RMS
10	-0.14	-0.47	0.04	0.05	-0.17	-0.61	0.03	0.05	-0.15	-0.53	0.02	0.05	-0.17	-0.42	0.01	0.05	-0.14	-0.36	0.04	0.05
20	-0.11	-0.58	0.14	0.05	-0.14	-0.56	0.26	0.07	-0.14	-0.63	0.07	0.06	-0.15	-0.62	0.08	0.06	-0.10	-0.38	0.10	0.05
30	-0.10	-0.48	0.14	0.06	-0.11	-0.77	0.48	0.11	-0.15	-0.62	0.06	0.07	-0.21	-0.64	0.34	0.09	-0.09	-0.46	0.21	0.06
40	-0.10	-0.55	0.10	0.05	-0.03	-0.68	0.60	0.13	-0.16	-0.76	0.12	0.09	-0.24	-0.84	0.40	0.12	-0.07	-0.39	0.48	0.09
50	-0.14	-0.43	0.07	0.05	0.15	-0.57	0.99	0.15	-0.12	-0.69	0.09	0.07	-0.27	-0.87	0.68	0.13	0.02	-0.31	0.46	0.08
60	-0.22	-0.58	0.03	0.07	0.21	-0.44	0.92	0.13	-0.06	-0.52	0.17	0.07	-0.14	-0.67	0.64	0.14	0.11	-0.23	0.51	0.09
70	-0.36	-0.92	-0.02	0.09	0.29	-0.31	0.83	0.13	0.04	-0.28	0.32	0.07	0.17	-0.53	0.91	0.14	0.28	-0.25	0.82	0.11
80	-0.35	-1.06	0.07	0.11	0.31	-0.16	0.91	0.13	0.13	-0.22	0.57	0.09	0.31	-0.34	0.93	0.14	0.35	-0.11	0.99	0.13
90	-0.23	-1.18	0.45	0.15	0.24	-0.17	1.07	0.13	0.17	-0.28	0.68	0.12	0.26	-0.53	0.82	0.14	0.28	-0.19	0.85	0.13
100	-0.20	-1.11	0.34	0.18	0.23	-0.26	0.82	0.14	0.22	-0.20	0.77	0.14	0.29	-0.23	0.87	0.15	0.27	-0.47	0.85	0.15
110	-0.02	-0.82	0.50	0.17	0.18	-0.30	0.91	0.13	0.17	-0.17	0.76	0.13	0.18	-0.35	0.84	0.15	0.15	-0.55	0.84	0.16
120	0.01	-0.65	0.40	0.10	0.11	-0.22	0.64	0.08	0.11	-0.21	0.57	0.09	0.08	-0.28	0.59	0.10	0.01	-0.36	0.58	0.10
130	0.08	-0.25	0.76	0.09	-0.07	-0.71	0.35	0.10	-0.04	-0.73	0.52	0.12	-0.13	-0.66	0.44	0.10	-0.26	-0.97	0.28	0.15
140	0.21	-0.26	0.76	0.13	-0.09	-0.67	0.37	0.12	-0.03	-0.71	0.92	0.16	-0.32	-1.07	0.23	0.12	-0.57	-1.41	0.09	0.17
150	0.16	-0.31	0.74	0.14	-0.12	-0.76	0.40	0.14	-0.08	-1.15	0.88	0.19	-0.32	-0.95	0.05	0.11	-0.55	-1.42	-0.04	0.17
160	0.05	-0.34	0.77	0.13	-0.32	-1.10	0.36	0.18	-0.25	-1.24	0.74	0.24	-0.38	-1.03	0.03	0.12	-0.60	-1.55	-0.15	0.16
170	0.02	-0.34	0.54	0.11	-0.40	-1.00	0.20	0.13	-0.43	-1.00	0.57	0.18	-0.41	-1.13	-0.04	0.12	-0.52	-1.39	-0.05	0.14
180	-0.02	-0.38	0.55	0.11	-0.38	-0.99	0.12	0.12	-0.39	-0.98	0.44	0.14	-0.37	-0.95	0.01	0.11	-0.45	-1.19	0.00	0.13
190	-0.09	-0.54	0.43	0.08	-0.26	-0.84	0.09	0.08	-0.27	-0.83	0.36	0.10	-0.27	-0.84	-0.01	0.08	-0.29	-0.84	-0.03	0.10
200	-0.12	-0.37	0.27	0.05	-0.25	-0.64	0.02	0.06	-0.24	-0.66	0.16	0.06	-0.24	-0.60	-0.02	0.06	-0.23	-0.66	0.00	0.07
210	-0.11	-0.42	0.21	0.05	-0.28	-0.60	-0.03	0.06	-0.29	-0.70	0.16	0.07	-0.26	-0.83	0.03	0.07	-0.22	-0.58	-0.02	0.07
220	-0.12	-0.50	0.53	0.06	-0.26	-0.68	-0.05	0.07	-0.28	-0.88	0.06	0.08	-0.24	-0.57	0.00	0.07	-0.22	-0.64	0.02	0.07
230	-0.13	-0.39	0.16	0.05	-0.18	-0.49	0.00	0.05	-0.18	-0.64	0.02	0.06	-0.17	-0.52	0.02	0.05	-0.17	-0.53	0.01	0.05
240	-0.13	-0.50	0.11	0.04	-0.12	-0.41	0.05	0.04	-0.13	-0.46	0.04	0.04	-0.13	-0.40	0.02	0.04	-0.12	-0.35	0.04	0.04
250	-0.12	-0.39	0.03	0.04	-0.10	-0.28	0.05	0.04	-0.11	-0.33	0.04	0.03	-0.11	-0.31	0.04	0.04	-0.10	-0.24	0.03	0.03
260	-0.10	-0.30	0.04	0.03	-0.10	-0.26	0.02	0.03	-0.10	-0.23	0.01	0.03	-0.10	-0.25	0.02	0.03	-0.11	-0.27	0.06	0.03
270	-0.12	-0.38	0.01	0.04	-0.12	-0.35	0.03	0.03	-0.12	-0.28	0.02	0.03	-0.12	-0.29	0.02	0.03	-0.12	-0.33	0.01	0.03
280	-0.23	-0.60	-0.03	0.06	-0.22	-0.71	-0.06	0.05	-0.21	-0.47	-0.06	0.04	-0.21	-0.46	-0.04	0.04	-0.20	-0.40	-0.03	0.04
290	-0.29	-0.69	-0.11	0.06	-0.25	-0.52	-0.08	0.04	-0.24	-0.44	-0.07	0.04	-0.24	-0.46	-0.04	0.04	-0.23	-0.40	-0.06	0.04
300	-0.30	-0.63	-0.11	0.06	-0.27	-0.59	-0.08	0.04	-0.25	-0.46	-0.09	0.04	-0.26	-0.47	-0.10	0.04	-0.25	-0.48	-0.12	0.04
310	-0.30	-0.72	-0.11	0.06	-0.28	-0.57	-0.11	0.05	-0.27	-0.48	-0.09	0.05	-0.28	-0.53	-0.11	0.05	-0.28	-0.63	-0.06	0.05
320	-0.27	-0.56	-0.09	0.05	-0.27	-0.52	-0.06	0.05	-0.27	-0.58	-0.09	0.05	-0.29	-0.64	-0.11	0.06	-0.30	-0.75	-0.11	0.07
330	-0.27	-0.54	-0.10	0.05	-0.27	-0.52	-0.04	0.05	-0.26	-0.52	-0.09	0.05	-0.30	-0.83	-0.07	0.08	-0.32	-0.87	0.02	0.08
340	-0.23	-0.52	-0.06	0.05	-0.24	-0.70	-0.02	0.06	-0.23	-0.51	-0.01	0.05	-0.27	-1.02	0.17	0.08	-0.27	-0.88	0.05	0.08
350	-0.21	-0.67	-0.02	0.06	-0.21	-0.66	0.00	0.06	-0.21	-0.63	0.04	0.06	-0.23	-0.67	0.17	0.07	-0.23	-0.67	0.03	0.07
360	-0.17	-0.85	0.05	0.05	-0.18	-0.62	0.03	0.06	-0.17	-0.58	0.04	0.05	-0.19	-0.71	0.07	0.06	-0.17	-0.47	0.01	0.05

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MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # C 22 MEAN	MIN	MAX	RMS	TAP # C 23 MEAN	MIN	MAX	RMS	TAP # C 24 MEAN	MIN	MAX	RMS	TAP # D 1 MEAN	MIN	MAX	RMS	TAP # D 2 MEAN	MIN	MAX	RMS
10	-0.05	-0.37	0.19	0.06	-0.27	-1.24	0.24	0.16	-0.05	-0.55	0.63	0.11	0.15	-0.58	0.74	0.15	0.08	-0.53	0.63	0.14
20	0.02	-0.23	0.38	0.07	-0.09	-0.80	0.48	0.13	0.05	-0.56	0.63	0.11	0.20	-0.36	0.72	0.11	0.17	-0.27	0.61	0.11
30	0.07	-0.15	0.54	0.07	0.07	-0.67	0.67	0.12	0.16	-0.46	0.92	0.13	0.20	-0.18	0.69	0.09	0.18	-0.19	0.89	0.10
40	0.16	-0.06	0.62	0.08	0.24	-0.25	0.91	0.13	0.28	-0.22	0.84	0.12	0.23	-0.02	0.87	0.09	0.24	-0.06	0.94	0.10
50	0.40	0.09	0.82	0.10	0.48	0.08	0.94	0.11	0.50	0.13	1.04	0.12	0.38	0.05	0.85	0.09	0.41	0.02	1.00	0.11
60	0.40	0.03	0.86	0.10	0.48	-0.02	0.97	0.12	0.45	-0.08	0.89	0.12	0.30	-0.12	0.75	0.10	0.34	-0.24	0.83	0.12
70	0.40	-0.02	0.85	0.11	0.36	-0.06	0.85	0.12	0.27	-0.43	0.82	0.15	0.13	-0.22	0.58	0.09	0.22	-0.30	0.72	0.13
80	0.37	-0.07	0.87	0.12	0.21	-0.24	0.79	0.11	0.02	-0.77	0.84	0.15	0.01	-0.45	0.43	0.08	0.11	-0.48	0.69	0.12
90	0.26	-0.13	0.75	0.12	0.08	-0.41	0.68	0.12	-0.13	-0.90	0.60	0.17	-0.09	-0.57	0.25	0.07	0.01	-0.56	0.77	0.12
100	0.23	-0.24	0.74	0.12	-0.02	-0.49	0.52	0.10	-0.27	-0.92	0.46	0.16	-0.15	-0.76	0.12	0.09	-0.02	-0.82	0.76	0.13
110	0.13	-0.26	0.71	0.12	-0.09	-0.47	0.49	0.10	-0.31	-0.89	0.43	0.17	-0.18	-1.00	0.14	0.09	-0.07	-0.80	0.66	0.14
120	0.01	-0.32	0.60	0.08	-0.17	-0.40	0.14	0.06	-0.34	-0.93	0.30	0.10	-0.22	-0.58	0.03	0.06	-0.16	-0.53	0.29	0.09
130	-0.13	-0.48	0.28	0.07	-0.22	-0.46	0.01	0.05	-0.29	-0.74	-0.09	0.06	-0.24	-0.51	-0.07	0.05	-0.23	-0.54	0.10	0.05
140	-0.24	-0.57	0.06	0.07	-0.28	-0.55	-0.09	0.05	-0.32	-0.85	-0.14	0.06	-0.29	-0.69	-0.11	0.06	-0.30	-0.82	0.03	0.06
150	-0.23	-0.70	0.02	0.07	-0.24	-0.55	-0.05	0.05	-0.24	-0.61	-0.01	0.06	-0.22	-0.61	-0.01	0.06	-0.23	-0.68	0.05	0.06
160	-0.28	-0.74	-0.03	0.08	-0.24	-0.62	-0.06	0.06	-0.25	-0.72	0.06	0.06	-0.20	-0.72	-0.01	0.06	-0.23	-0.74	0.02	0.07
170	-0.33	-0.88	0.01	0.09	-0.25	-0.77	0.06	0.07	-0.24	-0.70	0.04	0.07	-0.22	-0.69	0.01	0.06	-0.20	-0.70	0.04	0.07
180	-0.27	-0.84	0.02	0.08	-0.24	-0.84	0.11	0.07	-0.21	-0.66	0.05	0.06	-0.18	-0.64	0.04	0.06	-0.20	-0.83	0.02	0.07
190	-0.22	-0.61	0.02	0.06	-0.17	-0.46	0.03	0.05	-0.18	-0.50	0.03	0.05	-0.16	-0.56	-0.01	0.04	-0.16	-0.49	0.03	0.04
200	-0.18	-0.61	0.05	0.05	-0.18	-0.44	0.03	0.05	-0.17	-0.47	-0.04	0.04	-0.15	-0.35	0.07	0.05	-0.15	-0.35	0.03	0.04
210	-0.20	-0.75	0.00	0.06	-0.20	-0.51	-0.03	0.05	-0.18	-0.48	0.01	0.05	-0.16	-0.37	-0.01	0.04	-0.16	-0.44	0.01	0.04
220	-0.20	-0.69	-0.01	0.06	-0.18	-0.70	0.02	0.05	-0.17	-0.35	-0.02	0.04	-0.15	-0.35	-0.02	0.03	-0.16	-0.39	-0.04	0.04
230	-0.15	-0.38	0.03	0.04	-0.14	-0.33	0.00	0.04	-0.13	-0.30	0.04	0.04	-0.13	-0.29	0.00	0.03	-0.13	-0.28	0.00	0.03
240	-0.12	-0.27	0.01	0.03	-0.11	-0.23	0.01	0.03	-0.11	-0.25	0.02	0.03	-0.11	-0.26	0.06	0.03	-0.11	-0.23	0.04	0.03
250	-0.10	-0.25	0.04	0.03	-0.10	-0.23	0.03	0.03	-0.09	-0.23	0.05	0.03	-0.09	-0.25	0.02	0.03	-0.09	-0.22	0.01	0.03
260	-0.10	-0.27	0.04	0.03	-0.11	-0.33	0.02	0.03	-0.11	-0.27	0.04	0.03	-0.10	-0.25	0.01	0.03	-0.11	-0.26	0.06	0.03
270	-0.11	-0.25	0.02	0.03	-0.12	-0.35	0.02	0.04	-0.11	-0.28	0.01	0.04	-0.11	-0.33	0.03	0.03	-0.11	-0.27	0.04	0.03
280	-0.18	-0.33	-0.02	0.04	-0.17	-0.35	-0.03	0.04	-0.18	-0.33	-0.05	0.04	-0.20	-0.41	-0.05	0.04	-0.19	-0.36	-0.04	0.04
290	-0.23	-0.48	-0.07	0.04	-0.24	-0.46	-0.09	0.04	-0.25	-0.46	-0.06	0.05	-0.29	-0.53	-0.13	0.05	-0.27	-0.48	-0.10	0.04
300	-0.26	-0.52	-0.12	0.04	-0.28	-0.52	-0.09	0.05	-0.29	-0.59	-0.11	0.05	-0.31	-0.54	-0.14	0.05	-0.30	-0.58	-0.14	0.05
310	-0.29	-0.66	-0.11	0.06	-0.30	-0.62	-0.03	0.06	-0.32	-0.72	-0.05	0.06	-0.34	-0.65	-0.11	0.06	-0.33	-0.63	-0.12	0.06
320	-0.30	-0.70	-0.06	0.07	-0.34	-0.82	0.09	0.08	-0.35	-0.84	0.10	0.08	-0.37	-0.79	-0.13	0.07	-0.35	-1.03	-0.15	0.07
330	-0.33	-0.81	0.06	0.08	-0.36	-0.90	0.09	0.10	-0.39	-0.99	0.03	0.09	-0.40	-0.96	0.00	0.09	-0.39	-1.00	-0.11	0.08
340	-0.34	-0.95	0.03	0.10	-0.39	-1.06	0.01	0.11	-0.38	-0.98	0.05	0.11	-0.40	-1.06	0.17	0.12	-0.40	-0.96	-0.01	0.10
350	-0.30	-1.10	0.11	0.10	-0.44	-1.12	0.03	0.14	-0.36	-0.94	0.02	0.12	-0.33	-1.04	0.58	0.14	-0.33	-0.93	0.30	0.12
360	-0.17	-0.68	0.11	0.07	-0.43	-1.62	0.13	0.17	-0.20	-0.72	0.38	0.10	-0.09	-0.82	0.81	0.17	-0.13	-0.89	0.49	0.13

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # D 3 MEAN	MIN	MAX	RMS	TAP # D 4 MEAN	MIN	MAX	RMS	TAP # D 5 MEAN	MIN	MAX	RMS	TAP # D 6 MEAN	MIN	MAX	RMS	TAP # D 7 MEAN	MIN	MAX	RMS
10	0.22	-0.18	0.98	0.12	0.20	-0.06	0.70	0.10	-0.03	-0.40	0.57	0.09	-0.34	-1.02	0.30	0.13	-0.37	-0.95	0.54	0.15
20	0.26	-0.42	0.91	0.13	0.19	-0.07	0.63	0.09	-0.07	-0.40	0.22	0.06	-0.28	-0.74	0.01	0.09	-0.29	-0.88	0.37	0.11
30	0.09	-0.62	0.80	0.13	0.10	-0.14	0.54	0.07	-0.05	-0.30	0.20	0.05	-0.14	-0.56	0.05	0.06	-0.17	-0.61	0.02	0.07
40	-0.03	-0.75	0.61	0.12	0.06	-0.25	0.43	0.06	-0.04	-0.21	0.13	0.04	-0.09	-0.53	0.10	0.05	-0.12	-0.52	0.04	0.05
50	-0.20	-0.84	0.38	0.12	0.05	-0.35	0.30	0.06	0.00	-0.21	0.15	0.04	-0.02	-0.18	0.15	0.04	-0.07	-0.26	0.10	0.04
60	-0.41	-1.54	0.08	0.14	-0.03	-0.34	0.24	0.06	-0.02	-0.22	0.12	0.03	-0.03	-0.16	0.13	0.03	-0.04	-0.20	0.10	0.03
70	-0.51	-1.35	-0.10	0.13	-0.15	-0.73	0.12	0.10	-0.06	-0.35	0.14	0.05	-0.06	-0.24	0.09	0.04	-0.08	-0.30	0.08	0.04
80	-0.37	-1.36	0.05	0.13	-0.25	-0.92	0.11	0.11	-0.10	-0.47	0.20	0.06	-0.10	-0.37	0.10	0.05	-0.12	-0.55	0.08	0.06
90	-0.32	-0.95	-0.01	0.09	-0.31	-0.95	0.09	0.11	-0.18	-0.71	0.13	0.08	-0.14	-0.43	0.12	0.06	-0.15	-0.51	0.07	0.06
100	-0.26	-0.73	-0.02	0.08	-0.29	-1.10	0.05	0.10	-0.23	-0.88	0.06	0.10	-0.17	-0.61	0.07	0.07	-0.19	-0.45	0.05	0.06
110	-0.22	-0.78	0.05	0.07	-0.24	-0.94	0.00	0.08	-0.21	-0.96	0.10	0.08	-0.19	-0.52	0.05	0.06	-0.20	-0.50	0.01	0.06
120	-0.17	-0.87	0.04	0.05	-0.19	-0.43	-0.04	0.04	-0.18	-0.51	-0.02	0.04	-0.17	-0.48	0.00	0.05	-0.18	-0.42	-0.02	0.04
130	-0.21	-0.48	0.00	0.05	-0.22	-0.56	-0.07	0.04	-0.20	-0.44	0.01	0.04	-0.24	-0.57	-0.05	0.05	-0.21	-0.46	0.00	0.05
140	-0.28	-0.73	-0.02	0.06	-0.27	-0.64	-0.06	0.05	-0.31	-0.62	-0.06	0.06	-0.32	-0.85	-0.01	0.07	-0.32	-0.80	-0.09	0.07
150	-0.22	-0.59	-0.01	0.06	-0.23	-0.51	0.03	0.06	-0.26	-0.53	-0.05	0.06	-0.26	-0.66	-0.01	0.06	-0.29	-0.93	-0.02	0.07
160	-0.20	-0.60	0.01	0.06	-0.21	-0.50	0.01	0.05	-0.25	-0.72	0.00	0.06	-0.26	-0.66	0.04	0.07	-0.28	-0.66	-0.08	0.07
170	-0.20	-0.54	0.01	0.06	-0.22	-0.55	0.05	0.06	-0.25	-0.55	-0.02	0.06	-0.24	-0.60	-0.05	0.07	-0.26	-0.77	-0.07	0.06
180	-0.18	-0.51	0.00	0.05	-0.20	-0.56	0.03	0.06	-0.20	-0.54	0.02	0.05	-0.22	-0.55	-0.01	0.06	-0.23	-0.49	-0.03	0.06
190	-0.15	-0.35	-0.03	0.04	-0.14	-0.30	0.01	0.03	-0.16	-0.36	-0.03	0.04	-0.16	-0.41	0.03	0.04	-0.18	-0.37	-0.01	0.04
200	-0.16	-0.39	0.00	0.04	-0.14	-0.33	0.02	0.04	-0.15	-0.39	0.06	0.05	-0.16	-0.44	0.14	0.05	-0.17	-0.57	0.06	0.05
210	-0.16	-0.35	0.05	0.04	-0.14	-0.39	0.00	0.04	-0.16	-0.54	0.06	0.05	-0.16	-0.50	0.22	0.06	-0.19	-0.55	0.02	0.06
220	-0.15	-0.32	0.01	0.04	-0.14	-0.41	0.01	0.04	-0.15	-0.39	0.05	0.05	-0.15	-0.44	0.28	0.06	-0.19	-0.49	-0.02	0.05
230	-0.13	-0.28	0.00	0.03	-0.12	-0.25	0.00	0.03	-0.13	-0.44	0.02	0.04	-0.14	-0.51	0.16	0.04	-0.15	-0.57	0.00	0.04
240	-0.11	-0.26	0.03	0.03	-0.10	-0.24	0.02	0.03	-0.12	-0.26	0.01	0.03	-0.12	-0.35	0.02	0.04	-0.13	-0.37	0.00	0.03
250	-0.10	-0.25	0.04	0.03	-0.08	-0.20	0.04	0.03	-0.10	-0.29	0.06	0.03	-0.12	-0.34	0.06	0.04	-0.12	-0.28	0.07	0.04
260	-0.10	-0.27	0.04	0.03	-0.09	-0.27	0.13	0.04	-0.10	-0.36	0.12	0.04	-0.09	-0.22	0.35	0.04	-0.08	-0.28	0.18	0.04
270	-0.09	-0.32	0.05	0.04	-0.03	-0.27	0.25	0.05	-0.03	-0.62	0.53	0.10	0.04	-0.25	0.52	0.09	0.05	-0.24	0.47	0.09
280	-0.16	-0.32	0.01	0.04	-0.02	-0.25	0.23	0.05	-0.11	-0.97	0.57	0.17	0.24	-0.14	0.89	0.11	0.26	-0.15	0.36	0.11
290	-0.21	-0.39	-0.05	0.04	-0.03	-0.25	0.25	0.05	-0.14	-1.16	0.60	0.16	0.27	-0.12	0.81	0.12	0.30	-0.06	0.80	0.10
300	-0.21	-0.39	0.03	0.04	0.01	-0.31	0.49	0.07	-0.02	-0.91	0.79	0.18	0.23	-0.08	0.85	0.11	0.25	-0.05	0.79	0.10
310	-0.21	-0.40	0.04	0.05	0.04	-0.22	0.47	0.08	0.10	-0.58	0.77	0.15	0.21	-0.11	0.72	0.10	0.22	-0.15	0.78	0.10
320	-0.19	-0.50	0.17	0.06	0.08	-0.17	0.62	0.08	0.17	-0.44	0.80	0.13	0.19	-0.38	0.80	0.11	0.21	-0.29	0.82	0.11
330	-0.15	-0.52	0.34	0.08	0.16	-0.13	0.77	0.11	0.18	-0.20	0.74	0.12	0.10	-0.57	0.77	0.13	0.17	-0.49	0.76	0.13
340	-0.10	-0.39	0.46	0.09	0.18	-0.13	0.77	0.11	0.14	-0.30	0.62	0.10	0.02	-0.78	0.64	0.15	0.08	-0.78	0.78	0.17
350	-0.03	-0.43	0.42	0.09	0.21	-0.12	0.72	0.11	0.12	-0.40	0.75	0.10	-0.14	-0.97	0.39	0.15	-0.08	-0.72	0.76	0.19
360	0.11	-0.29	0.79	0.11	0.23	-0.05	0.89	0.10	0.06	-0.34	0.72	0.09	-0.27	-1.04	0.34	0.18	-0.26	-1.04	0.42	0.20

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # D 8 MEAN	MIN	MAX	RMS	TAP # D 9 MEAN	MIN	MAX	RMS	TAP # D 10 MEAN	MIN	MAX	RMS	TAP # D 11 MEAN	MIN	MAX	RMS	TAP # D 12 MEAN	MIN	MAX	RMS
10	-0.32	-1.07	0.11	0.15	-0.33	-1.00	0.01	0.12	-0.24	-0.92	0.05	0.11	-0.18	-0.61	0.09	0.06	-0.21	-0.63	0.12	0.07
20	-0.29	-0.86	0.11	0.11	-0.27	-0.98	0.06	0.11	-0.21	-0.73	0.07	0.10	-0.15	-0.64	0.15	0.08	-0.13	-0.43	0.16	0.07
30	-0.17	-0.72	0.08	0.07	-0.16	-0.67	0.05	0.08	-0.14	-0.70	0.10	0.07	-0.07	-0.52	0.12	0.05	-0.06	-0.39	0.22	0.05
40	-0.12	-0.51	0.06	0.06	-0.11	-0.60	0.11	0.06	-0.07	-0.32	0.11	0.05	-0.04	-0.23	0.14	0.04	-0.05	-0.38	0.14	0.05
50	-0.07	-0.32	0.12	0.04	-0.06	-0.22	0.10	0.04	-0.05	-0.20	0.11	0.04	-0.06	-0.24	0.09	0.04	-0.06	-0.26	0.14	0.04
60	-0.04	-0.23	0.12	0.04	-0.04	-0.17	0.10	0.03	-0.04	-0.19	0.11	0.04	-0.05	-0.23	0.13	0.04	-0.05	-0.26	0.08	0.04
70	-0.07	-0.27	0.09	0.04	-0.07	-0.27	0.07	0.03	-0.07	-0.26	0.11	0.04	-0.08	-0.27	0.06	0.04	-0.08	-0.28	0.08	0.04
80	-0.09	-0.45	0.09	0.05	-0.10	-0.34	0.07	0.04	-0.12	-0.36	0.08	0.05	-0.16	-0.51	0.05	0.06	-0.16	-0.61	0.07	0.06
90	-0.14	-0.52	0.08	0.06	-0.15	-0.55	0.04	0.06	-0.18	-0.56	0.07	0.07	-0.26	-1.02	0.11	0.10	-0.25	-1.12	0.17	0.13
100	-0.19	-0.55	0.07	0.07	-0.23	-0.89	0.01	0.07	-0.25	-0.74	0.07	0.09	-0.36	-1.01	-0.02	0.12	-0.34	-1.34	0.15	0.15
110	-0.21	-0.51	0.02	0.07	-0.22	-0.61	-0.04	0.06	-0.26	-0.78	0.05	0.08	-0.30	-1.03	0.00	0.10	-0.28	-0.95	0.04	0.10
120	-0.19	-0.49	-0.01	0.05	-0.20	-0.41	0.00	0.04	-0.23	-0.71	0.03	0.07	-0.28	-0.95	-0.02	0.08	-0.26	-1.02	0.00	0.08
130	-0.23	-0.59	0.04	0.06	-0.25	-0.65	-0.04	0.06	-0.27	-0.86	-0.03	0.08	-0.31	-0.88	0.02	0.09	-0.30	-0.88	0.04	0.09
140	-0.34	-0.76	-0.05	0.07	-0.33	-0.62	-0.12	0.06	-0.36	-0.96	-0.07	0.09	-0.52	-1.23	-0.06	0.14	-0.44	-1.29	0.02	0.14
150	-0.31	-0.78	-0.08	0.07	-0.31	-0.74	-0.05	0.07	-0.33	-0.93	-0.02	0.09	-0.50	-1.47	-0.04	0.14	-0.38	-1.33	0.08	0.12
160	-0.30	-0.83	-0.03	0.07	-0.29	-0.73	-0.05	0.07	-0.32	-0.85	-0.06	0.09	-0.52	-1.39	-0.08	0.13	-0.37	-1.15	0.01	0.11
170	-0.30	-0.81	-0.03	0.07	-0.27	-0.73	0.00	0.07	-0.31	-0.82	-0.04	0.08	-0.49	-1.28	-0.16	0.13	-0.38	-1.05	0.03	0.12
180	-0.27	-0.68	-0.02	0.07	-0.23	-0.63	0.00	0.06	-0.26	-0.72	-0.06	0.07	-0.40	-1.17	-0.07	0.12	-0.30	-0.94	0.02	0.10
190	-0.18	-0.45	-0.02	0.04	-0.18	-0.49	0.02	0.04	-0.17	-0.54	0.03	0.04	-0.27	-0.80	0.03	0.08	-0.19	-0.72	0.07	0.06
200	-0.18	-0.49	0.03	0.05	-0.17	-0.56	0.17	0.05	-0.16	-0.47	0.23	0.05	-0.23	-0.67	0.26	0.08	-0.17	-0.51	0.26	0.06
210	-0.21	-0.68	0.04	0.06	-0.19	-0.51	0.21	0.06	-0.16	-0.49	0.33	0.07	-0.20	-0.75	0.39	0.11	-0.14	-0.58	0.58	0.10
220	-0.22	-0.56	0.02	0.06	-0.19	-0.51	0.04	0.06	-0.16	-0.53	0.31	0.06	-0.15	-0.53	0.34	0.08	-0.11	-0.49	0.51	0.08
230	-0.17	-0.78	-0.02	0.05	-0.16	-0.53	0.00	0.04	-0.17	-0.39	0.05	0.05	-0.15	-0.53	0.20	0.05	-0.14	-0.43	0.29	0.05
240	-0.14	-0.33	0.01	0.04	-0.14	-0.28	0.03	0.03	-0.13	-0.35	0.08	0.04	-0.14	-0.36	0.11	0.04	-0.13	-0.37	0.17	0.04
250	-0.12	-0.31	0.03	0.04	-0.12	-0.29	0.03	0.04	-0.12	-0.35	0.05	0.03	-0.12	-0.29	0.14	0.04	-0.12	-0.26	0.05	0.03
260	-0.10	-0.28	0.16	0.04	-0.10	-0.34	0.09	0.04	-0.10	-0.28	0.05	0.03	-0.10	-0.27	0.04	0.03	-0.10	-0.28	0.04	0.03
270	-0.01	-0.51	0.54	0.09	-0.06	-0.52	0.45	0.08	-0.06	-0.28	0.28	0.05	-0.13	-0.45	0.10	0.05	-0.18	-0.55	0.05	0.07
280	0.25	-0.36	0.85	0.12	0.14	-0.35	0.65	0.12	0.07	-0.21	0.43	0.08	-0.22	-0.61	0.08	0.07	-0.46	-1.35	0.21	0.13
290	0.31	-0.06	0.87	0.12	0.22	-0.33	0.79	0.12	0.12	-0.18	0.46	0.08	-0.23	-0.52	0.05	0.07	-0.54	-1.24	0.01	0.12
300	0.20	-0.47	0.85	0.13	0.13	-0.50	0.72	0.14	0.06	-0.21	0.61	0.09	-0.24	-0.51	0.07	0.07	-0.52	-1.16	0.18	0.11
310	0.10	-0.66	0.67	0.12	0.01	-0.58	0.84	0.13	0.01	-0.26	0.49	0.07	-0.26	-0.59	0.03	0.07	-0.50	-1.22	-0.12	0.10
320	0.06	-0.43	0.61	0.12	-0.06	-1.01	0.39	0.12	-0.03	-0.32	0.33	0.07	-0.26	-0.55	-0.01	0.06	-0.43	-1.00	-0.19	0.09
330	-0.02	-0.59	0.53	0.11	-0.16	-0.92	0.47	0.14	-0.07	-0.43	0.22	0.06	-0.25	-0.51	-0.02	0.05	-0.37	-0.79	-0.17	0.07
340	-0.06	-0.79	0.43	0.12	-0.22	-1.22	0.24	0.15	-0.09	-0.58	0.16	0.07	-0.23	-0.53	-0.02	0.05	-0.31	-0.67	-0.09	0.06
350	-0.17	-1.00	0.32	0.12	-0.34	-1.08	0.20	0.16	-0.14	-0.59	0.11	0.08	-0.20	-0.53	0.03	0.06	-0.26	-0.69	0.06	0.06
360	-0.25	-1.09	0.19	0.16	-0.34	-0.97	0.21	0.13	-0.17	-0.69	0.17	0.10	-0.20	-0.64	0.04	0.06	-0.24	-0.66	0.07	0.07

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MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # D 13 MEAN	MIN	MAX	RMS	TAP # D 14 MEAN	MIN	MAX	RMS	TAP # D 15 MEAN	MIN	MAX	RMS	TAP # D 16 MEAN	MIN	MAX	RMS	TAP # D 17 MEAN	MIN	MAX	RMS
10	-0.21	-0.61	-0.01	0.07	-0.14	-0.47	0.19	0.06	-0.21	-0.69	0.09	0.08	-0.14	-0.40	0.03	0.05	-0.14	-0.47	0.04	0.05
20	-0.13	-0.48	0.07	0.06	-0.07	-0.33	0.21	0.05	-0.14	-0.53	0.10	0.07	-0.11	-0.51	0.09	0.06	-0.10	-0.46	0.10	0.06
30	-0.08	-0.30	0.10	0.05	-0.04	-0.26	0.12	0.04	-0.11	-0.61	0.12	0.07	-0.11	-0.55	0.08	0.06	-0.10	-0.54	0.13	0.06
40	-0.07	-0.33	0.09	0.04	-0.04	-0.21	0.11	0.04	-0.12	-0.54	0.15	0.07	-0.13	-0.59	0.07	0.06	-0.11	-0.63	0.10	0.06
50	-0.09	-0.26	0.13	0.05	-0.05	-0.25	0.14	0.04	-0.15	-0.73	0.17	0.08	-0.20	-0.78	0.11	0.08	-0.16	-0.67	0.09	0.07
60	-0.06	-0.29	0.09	0.04	-0.04	-0.24	0.09	0.03	-0.06	-0.43	0.32	0.07	-0.22	-0.84	0.24	0.11	-0.27	-0.89	0.00	0.09
70	-0.09	-0.29	0.10	0.04	-0.05	-0.21	0.06	0.03	-0.04	-0.47	0.21	0.05	-0.10	-0.80	0.38	0.15	-0.42	-1.20	-0.01	0.13
80	-0.16	-0.64	0.03	0.06	-0.10	-0.40	0.06	0.04	-0.07	-0.31	0.13	0.05	-0.02	-0.74	0.29	0.10	-0.35	-1.23	0.14	0.16
90	-0.28	-1.65	0.12	0.15	-0.21	-0.83	0.03	0.09	-0.11	-0.44	0.22	0.08	0.04	-0.44	0.36	0.07	-0.15	-1.02	0.36	0.15
100	-0.40	-1.74	0.41	0.19	-0.28	-0.95	0.07	0.11	-0.15	-0.50	0.22	0.08	0.04	-0.38	0.32	0.06	-0.11	-0.95	0.45	0.15
110	-0.32	-1.45	0.24	0.12	-0.21	-0.82	0.01	0.08	-0.12	-0.58	0.24	0.07	0.04	-0.24	0.42	0.05	0.00	-0.85	0.44	0.13
120	-0.29	-1.32	0.34	0.09	-0.21	-0.56	0.08	0.06	-0.13	-0.43	0.25	0.06	0.01	-0.14	0.32	0.05	0.03	-0.50	0.36	0.08
130	-0.31	-1.08	0.45	0.11	-0.23	-0.61	0.04	0.07	-0.07	-0.40	0.34	0.08	0.10	-0.17	0.67	0.09	0.07	-0.22	0.64	0.09
140	-0.44	-1.72	0.51	0.20	-0.33	-0.88	0.06	0.11	-0.10	-0.48	0.58	0.10	0.14	-0.17	0.64	0.09	0.16	-0.27	0.74	0.12
150	-0.33	-1.25	0.65	0.20	-0.27	-0.94	0.13	0.11	-0.04	-0.47	0.69	0.11	0.12	-0.16	0.54	0.09	0.10	-0.32	0.68	0.13
160	-0.31	-1.24	0.52	0.18	-0.24	-0.83	0.13	0.09	0.02	-0.46	0.56	0.11	0.13	-0.18	0.62	0.09	0.01	-0.31	0.81	0.11
170	-0.32	-1.03	0.61	0.16	-0.24	-0.77	0.15	0.09	0.00	-0.38	0.66	0.09	0.17	-0.11	0.72	0.10	-0.01	-0.44	0.45	0.09
180	-0.25	-0.96	0.58	0.14	-0.18	-0.69	0.10	0.08	-0.03	-0.35	0.43	0.08	0.10	-0.19	0.58	0.09	-0.05	-0.48	0.36	0.09
190	-0.15	-0.67	0.32	0.10	-0.12	-0.46	0.14	0.06	-0.06	-0.30	0.49	0.06	0.00	-0.20	0.34	0.06	-0.07	-0.34	0.45	0.06
200	-0.12	-0.68	0.29	0.08	-0.10	-0.39	0.21	0.05	-0.06	-0.33	0.28	0.06	-0.03	-0.25	0.25	0.05	-0.10	-0.42	0.23	0.05
210	-0.10	-0.64	0.41	0.10	-0.09	-0.52	0.38	0.08	-0.05	-0.60	0.42	0.08	0.01	-0.29	0.38	0.06	-0.10	-0.34	0.14	0.05
220	-0.09	-0.54	0.31	0.07	-0.05	-0.39	0.48	0.06	-0.09	-1.00	0.37	0.08	-0.03	-0.34	0.47	0.07	-0.12	-0.37	0.26	0.05
230	-0.12	-0.34	0.26	0.05	-0.08	-0.23	0.17	0.04	-0.14	-0.70	0.13	0.06	-0.12	-0.31	0.22	0.04	-0.12	-0.44	0.16	0.04
240	-0.12	-0.29	0.13	0.04	-0.07	-0.22	0.12	0.03	-0.13	-0.44	0.03	0.04	-0.12	-0.31	0.01	0.04	-0.13	-0.43	0.07	0.04
250	-0.12	-0.30	0.04	0.03	-0.08	-0.21	0.05	0.03	-0.12	-0.34	0.04	0.03	-0.12	-0.27	0.15	0.03	-0.12	-0.36	0.06	0.04
260	-0.10	-0.26	0.02	0.03	-0.06	-0.18	0.06	0.03	-0.10	-0.26	0.05	0.03	-0.10	-0.22	0.02	0.03	-0.10	-0.20	0.03	0.03
270	-0.16	-0.68	0.03	0.05	-0.09	-0.45	0.16	0.05	-0.14	-0.53	0.00	0.05	-0.13	-0.38	0.01	0.04	-0.12	-0.24	-0.01	0.03
280	-0.35	-1.09	0.00	0.12	-0.22	-0.80	0.44	0.12	-0.32	-0.89	-0.07	0.08	-0.29	-0.62	-0.04	0.07	-0.22	-0.55	-0.03	0.05
290	-0.42	-1.09	-0.02	0.11	-0.25	-0.83	0.39	0.12	-0.39	-1.00	-0.08	0.08	-0.37	-0.79	-0.15	0.07	-0.28	-0.66	-0.09	0.06
300	-0.41	-0.96	-0.09	0.10	-0.25	-0.88	0.40	0.12	-0.38	-0.85	-0.13	0.08	-0.36	-0.68	-0.13	0.07	-0.29	-0.59	-0.08	0.05
310	-0.38	-1.06	-0.10	0.09	-0.28	-0.85	0.27	0.10	-0.37	-1.08	-0.09	0.08	-0.34	-0.86	-0.14	0.07	-0.29	-0.67	-0.04	0.05
320	-0.38	-1.11	-0.14	0.07	-0.27	-0.81	0.19	0.07	-0.35	-0.81	-0.09	0.07	-0.33	-0.86	-0.14	0.07	-0.28	-0.70	-0.02	0.06
330	-0.32	-0.71	-0.10	0.06	-0.25	-0.61	0.11	0.06	-0.32	-0.73	-0.09	0.07	-0.30	-0.74	-0.11	0.06	-0.27	-0.55	-0.08	0.06
340	-0.29	-0.87	-0.06	0.06	-0.21	-0.50	0.06	0.05	-0.27	-0.72	-0.06	0.07	-0.24	-0.56	-0.06	0.05	-0.21	-0.48	-0.03	0.05
350	-0.22	-0.47	0.00	0.05	-0.18	-0.54	0.12	0.05	-0.21	-0.57	0.02	0.06	-0.19	-0.47	0.01	0.05	-0.19	-0.56	0.04	0.05
360	-0.22	-0.61	0.04	0.07	-0.17	-0.57	0.18	0.07	-0.21	-0.73	0.06	0.08	-0.15	-0.42	0.09	0.05	-0.15	-0.55	0.09	0.06

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # D 18 MEAN	MIN	MAX	RMS	TAP # D 19 MEAN	MIN	MAX	RMS	TAP # D 20 MEAN	MIN	MAX	RMS	TAP # D 21 MEAN	MIN	MAX	RMS	TAP # D 22 MEAN	MIN	MAX	RMS
10	-0.15	-0.54	0.08	0.05	-0.14	-0.55	0.07	0.05	-0.16	-0.47	0.04	0.05	-0.12	-0.36	0.02	0.04	-0.08	-0.45	0.17	0.06
20	-0.13	-0.59	0.60	0.07	-0.13	-0.61	0.11	0.06	-0.14	-0.63	0.05	0.07	-0.09	-0.31	0.10	0.05	-0.02	-0.26	0.26	0.06
30	-0.08	-0.80	0.52	0.10	-0.14	-0.84	0.11	0.08	-0.18	-0.74	0.32	0.09	-0.07	-0.45	0.22	0.07	0.07	-0.20	0.48	0.07
40	-0.04	-0.67	0.52	0.13	-0.13	-0.74	0.15	0.09	-0.20	-0.81	0.46	0.12	-0.05	-0.32	0.32	0.08	0.15	-0.13	0.57	0.08
50	0.10	-0.61	0.86	0.15	-0.12	-0.61	0.29	0.09	-0.26	-0.87	0.43	0.12	0.02	-0.30	0.37	0.08	0.33	0.07	0.69	0.08
60	0.13	-0.60	0.80	0.14	-0.07	-0.50	0.24	0.08	-0.13	-0.66	0.51	0.14	0.07	-0.26	0.53	0.08	0.27	0.00	0.65	0.08
70	0.17	-0.31	0.69	0.11	0.02	-0.30	0.40	0.07	0.11	-0.47	0.69	0.13	0.19	-0.11	0.73	0.09	0.27	-0.04	0.76	0.09
80	0.19	-0.24	0.91	0.12	0.08	-0.25	0.50	0.07	0.19	-0.34	0.96	0.12	0.20	-0.15	0.73	0.11	0.20	-0.17	0.70	0.11
90	0.15	-0.19	0.74	0.10	0.09	-0.29	0.62	0.08	0.15	-0.42	0.82	0.10	0.15	-0.25	0.76	0.10	0.15	-0.18	0.86	0.11
100	0.15	-0.28	0.74	0.10	0.11	-0.28	0.56	0.08	0.16	-0.16	0.74	0.10	0.16	-0.33	0.67	0.11	0.12	-0.22	0.64	0.09
110	0.10	-0.28	0.62	0.08	0.09	-0.40	0.56	0.08	0.08	-0.34	0.57	0.10	0.05	-0.46	0.63	0.11	0.05	-0.27	0.55	0.09
120	0.09	-0.25	0.61	0.07	0.09	-0.22	0.52	0.07	0.04	-0.26	0.50	0.08	-0.01	-0.35	0.43	0.08	-0.02	-0.25	0.48	0.08
130	-0.05	-0.54	0.32	0.09	0.00	-0.66	0.62	0.11	-0.12	-0.56	0.33	0.09	-0.23	-1.29	0.24	0.13	-0.13	-0.47	0.12	0.06
140	-0.09	-0.55	0.44	0.11	0.05	-0.76	0.80	0.16	-0.26	-0.79	0.22	0.10	-0.47	-1.35	-0.05	0.14	-0.21	-0.51	0.00	0.06
150	-0.11	-0.83	0.41	0.13	-0.02	-0.92	0.95	0.18	-0.28	-0.76	0.11	0.10	-0.46	-1.09	-0.06	0.15	-0.23	-0.69	0.00	0.07
160	-0.27	-0.99	0.30	0.16	-0.20	-1.15	0.77	0.24	-0.31	-1.07	0.14	0.11	-0.43	-1.30	0.04	0.13	-0.25	-0.80	-0.04	0.07
170	-0.36	-0.99	0.30	0.14	-0.35	-1.28	0.53	0.16	-0.34	-0.94	0.03	0.11	-0.44	-1.15	-0.08	0.12	-0.31	-0.91	-0.03	0.09
180	-0.35	-0.96	0.01	0.12	-0.33	-0.90	0.55	0.15	-0.33	-1.15	-0.04	0.11	-0.41	-1.26	-0.04	0.12	-0.28	-0.92	-0.02	0.09
190	-0.24	-0.83	0.12	0.08	-0.22	-0.84	0.54	0.11	-0.22	-0.81	0.00	0.07	-0.27	-0.75	-0.04	0.08	-0.20	-0.67	-0.02	0.06
200	-0.24	-0.69	0.05	0.06	-0.23	-1.03	0.13	0.08	-0.21	-0.87	-0.01	0.07	-0.23	-0.69	-0.02	0.06	-0.19	-0.55	0.00	0.05
210	-0.26	-0.64	-0.02	0.07	-0.26	-0.63	0.13	0.08	-0.23	-0.74	0.02	0.07	-0.23	-0.64	0.01	0.06	-0.22	-0.63	-0.01	0.06
220	-0.25	-0.57	0.00	0.07	-0.25	-0.97	0.10	0.09	-0.21	-0.64	0.05	0.07	-0.22	-0.86	0.03	0.07	-0.19	-0.55	-0.02	0.05
230	-0.17	-0.56	0.01	0.05	-0.16	-0.61	0.12	0.06	-0.15	-0.45	0.00	0.04	-0.16	-0.48	0.02	0.05	-0.14	-0.30	0.01	0.04
240	-0.12	-0.38	0.00	0.04	-0.12	-0.42	0.04	0.04	-0.12	-0.28	0.03	0.04	-0.12	-0.30	0.03	0.03	-0.12	-0.27	0.04	0.03
250	-0.10	-0.24	0.09	0.03	-0.11	-0.31	0.09	0.04	-0.11	-0.28	0.04	0.03	-0.10	-0.30	0.04	0.03	-0.09	-0.22	0.06	0.03
260	-0.10	-0.22	0.02	0.03	-0.09	-0.22	0.04	0.03	-0.09	-0.22	0.02	0.03	-0.10	-0.24	0.02	0.03	-0.10	-0.25	0.01	0.03
270	-0.11	-0.24	0.02	0.03	-0.11	-0.30	0.01	0.03	-0.11	-0.24	0.01	0.03	-0.11	-0.27	0.02	0.03	-0.11	-0.27	0.01	0.03
280	-0.21	-0.47	-0.04	0.04	-0.20	-0.43	0.02	0.05	-0.20	-0.43	-0.03	0.04	-0.20	-0.42	-0.02	0.04	-0.19	-0.33	-0.05	0.04
290	-0.27	-0.55	-0.06	0.05	-0.26	-0.53	-0.04	0.05	-0.25	-0.47	-0.09	0.04	-0.25	-0.51	-0.11	0.04	-0.27	-0.52	-0.12	0.05
300	-0.28	-0.53	-0.13	0.05	-0.28	-0.51	-0.06	0.05	-0.27	-0.51	-0.11	0.04	-0.27	-0.46	-0.05	0.04	-0.30	-0.65	-0.12	0.05
310	-0.27	-0.51	-0.08	0.05	-0.27	-0.53	-0.07	0.05	-0.27	-0.54	-0.08	0.05	-0.29	-0.62	-0.11	0.05	-0.32	-0.71	-0.13	0.06
320	-0.27	-0.51	-0.03	0.05	-0.27	-0.48	-0.03	0.05	-0.28	-0.62	-0.06	0.06	-0.29	-0.64	-0.06	0.06	-0.35	-0.81	-0.08	0.07
330	-0.26	-0.63	-0.03	0.06	-0.26	-0.60	-0.05	0.06	-0.30	-0.76	-0.02	0.07	-0.30	-0.74	0.00	0.08	-0.38	-0.99	-0.06	0.09
340	-0.23	-0.65	0.00	0.06	-0.21	-0.64	-0.01	0.05	-0.25	-0.78	0.01	0.07	-0.26	-0.71	0.01	0.07	-0.31	-0.92	-0.01	0.09
350	-0.21	-0.61	0.02	0.06	-0.20	-0.54	0.04	0.06	-0.21	-0.74	0.01	0.07	-0.23	-0.75	0.06	0.07	-0.27	-0.99	0.03	0.09
360	-0.16	-0.57	0.02	0.05	-0.16	-0.73	0.07	0.06	-0.16	-0.69	0.07	0.06	-0.15	-0.46	0.12	0.05	-0.18	-0.51	0.07	0.07

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # D 23 MEAN	MIN	MAX	RMS	TAP # D 24 MEAN	MIN	MAX	RMS	TAP # E 1 MEAN	MIN	MAX	RMS	TAP # E 2 MEAN	MIN	MAX	RMS	TAP # E 3 MEAN	MIN	MAX	RMS
10	-0.28	-1.07	0.17	0.15	-0.07	-0.52	0.59	0.10	0.07	-0.36	0.56	0.10	0.06	-0.77	0.62	0.13	0.18	-0.18	0.86	0.10
20	-0.10	-0.95	0.43	0.13	0.01	-0.47	0.65	0.10	0.14	-0.25	0.72	0.09	0.13	-0.48	0.73	0.10	0.21	-0.15	0.70	0.09
30	0.06	-0.72	0.64	0.12	0.14	-0.36	0.80	0.11	0.15	-0.10	0.60	0.08	0.15	-0.18	0.69	0.08	0.12	-0.53	0.66	0.10
40	0.19	-0.29	0.72	0.10	0.25	-0.26	0.82	0.10	0.20	-0.09	0.62	0.08	0.23	-0.06	0.96	0.09	0.08	-0.80	0.57	0.12
50	0.43	-0.03	1.03	0.11	0.45	0.06	0.91	0.10	0.35	0.09	0.79	0.09	0.36	0.03	0.81	0.09	0.04	-1.09	0.52	0.17
60	0.38	-0.02	0.80	0.11	0.40	-0.04	0.95	0.11	0.27	-0.18	0.86	0.10	0.29	-0.23	0.82	0.10	-0.02	-0.97	0.46	0.16
70	0.25	-0.12	0.79	0.10	0.21	-0.26	0.70	0.12	0.14	-0.28	0.58	0.07	0.17	-0.20	0.65	0.09	-0.10	-0.95	0.40	0.16
80	0.11	-0.20	0.58	0.09	0.02	-0.57	0.74	0.12	0.07	-0.43	0.40	0.08	0.12	-0.38	0.64	0.10	-0.21	-0.98	0.20	0.15
90	0.02	-0.34	0.56	0.09	-0.09	-0.65	0.63	0.13	-0.05	-0.59	0.22	0.08	0.03	-0.48	0.46	0.10	-0.30	-1.04	0.26	0.14
100	-0.06	-0.42	0.36	0.09	-0.21	-0.99	0.37	0.16	-0.09	-0.69	0.13	0.08	0.00	-0.45	0.76	0.10	-0.31	-1.02	0.12	0.13
110	-0.12	-0.53	0.38	0.10	-0.23	-1.12	0.63	0.16	-0.14	-0.80	0.15	0.08	-0.04	-0.50	0.64	0.10	-0.25	-1.22	0.04	0.11
120	-0.17	-0.40	0.33	0.06	-0.29	-0.80	0.24	0.08	-0.20	-0.75	0.03	0.06	-0.11	-0.36	0.52	0.08	-0.18	-0.84	0.04	0.06
130	-0.21	-0.42	0.00	0.04	-0.26	-0.72	-0.07	0.05	-0.24	-0.52	-0.04	0.05	-0.16	-0.43	0.13	0.08	-0.22	-0.49	-0.02	0.05
140	-0.27	-0.61	-0.02	0.05	-0.32	-0.70	-0.10	0.06	-0.30	-0.59	-0.10	0.07	-0.28	-0.58	0.23	0.08	-0.29	-0.84	0.00	0.08
150	-0.24	-0.62	-0.06	0.05	-0.26	-0.71	0.02	0.06	-0.24	-0.65	-0.02	0.06	-0.24	-0.57	0.16	0.06	-0.21	-0.82	0.04	0.06
160	-0.23	-0.73	0.00	0.06	-0.25	-0.66	-0.03	0.06	-0.23	-0.73	-0.02	0.06	-0.22	-0.67	0.09	0.06	-0.20	-0.74	0.00	0.06
170	-0.24	-0.63	0.08	0.07	-0.26	-0.90	0.14	0.07	-0.22	-0.65	-0.03	0.06	-0.23	-0.60	0.01	0.06	-0.18	-0.60	0.00	0.05
180	-0.21	-0.59	0.03	0.06	-0.21	-0.63	0.00	0.06	-0.19	-0.54	0.01	0.05	-0.19	-0.67	0.05	0.06	-0.15	-0.42	0.00	0.04
190	-0.17	-0.43	0.00	0.04	-0.17	-0.57	0.12	0.04	-0.15	-0.35	0.00	0.04	-0.16	-0.39	0.01	0.04	-0.13	-0.34	0.06	0.04
200	-0.17	-0.44	0.03	0.04	-0.17	-0.41	0.02	0.04	-0.16	-0.34	-0.02	0.04	-0.15	-0.36	-0.01	0.04	-0.14	-0.30	0.03	0.04
210	-0.19	-0.39	-0.03	0.04	-0.18	-0.41	-0.02	0.04	-0.16	-0.41	-0.02	0.04	-0.17	-0.38	-0.01	0.04	-0.15	-0.32	-0.02	0.04
220	-0.17	-0.40	-0.01	0.04	-0.16	-0.39	0.02	0.04	-0.15	-0.35	-0.02	0.04	-0.16	-0.28	-0.02	0.04	-0.13	-0.29	0.01	0.04
230	-0.14	-0.33	0.00	0.04	-0.14	-0.30	0.00	0.03	-0.13	-0.29	0.00	0.04	-0.13	-0.33	-0.02	0.04	-0.12	-0.27	0.03	0.03
240	-0.12	-0.27	0.01	0.03	-0.11	-0.25	0.03	0.03	-0.11	-0.28	0.04	0.03	-0.12	-0.25	0.05	0.03	-0.11	-0.24	0.05	0.03
250	-0.09	-0.21	0.05	0.03	-0.09	-0.22	0.03	0.03	-0.09	-0.23	0.03	0.03	-0.09	-0.23	0.03	0.03	-0.08	-0.25	0.06	0.03
260	-0.11	-0.28	0.01	0.03	-0.10	-0.28	0.03	0.03	-0.11	-0.26	0.01	0.03	-0.11	-0.37	0.04	0.04	-0.08	-0.25	0.07	0.03
270	-0.11	-0.30	0.02	0.04	-0.11	-0.33	0.03	0.03	-0.11	-0.26	0.01	0.03	-0.15	-0.48	0.01	0.05	-0.06	-0.23	0.18	0.04
280	-0.20	-0.61	-0.03	0.05	-0.21	-0.43	-0.03	0.05	-0.20	-0.42	-0.03	0.04	-0.38	-0.86	-0.11	0.08	-0.04	-0.36	0.25	0.06
290	-0.30	-0.62	-0.08	0.06	-0.29	-0.56	-0.10	0.05	-0.26	-0.50	-0.04	0.05	-0.36	-0.83	-0.10	0.08	-0.08	-0.41	0.26	0.06
300	-0.31	-0.67	-0.13	0.06	-0.31	-0.59	-0.13	0.05	-0.28	-0.56	-0.02	0.05	-0.38	-1.01	-0.16	0.09	-0.08	-0.44	0.40	0.07
310	-0.32	-0.80	-0.13	0.06	-0.32	-0.67	-0.16	0.06	-0.30	-0.64	-0.08	0.06	-0.44	-1.20	-0.17	0.11	-0.07	-0.54	0.31	0.08
320	-0.38	-0.94	0.06	0.08	-0.37	-0.88	-0.06	0.07	-0.33	-0.77	0.23	0.07	-0.54	-1.98	-0.18	0.15	-0.08	-0.55	0.36	0.09
330	-0.40	-1.20	-0.07	0.10	-0.41	-0.97	-0.12	0.10	-0.34	-0.77	0.51	0.09	-0.64	-2.16	-0.14	0.20	-0.07	-0.53	0.41	0.10
340	-0.37	-1.13	-0.02	0.10	-0.37	-1.20	0.04	0.11	-0.25	-0.69	0.76	0.10	-0.57	-1.60	0.03	0.20	-0.05	-0.58	0.49	0.09
350	-0.40	-1.25	0.05	0.13	-0.34	-0.97	0.01	0.11	-0.21	-0.70	0.43	0.11	-0.53	-2.08	0.38	0.25	-0.01	-0.41	0.35	0.08
360	-0.37	-1.15	-0.05	0.14	-0.22	-0.76	0.21	0.10	-0.07	-0.57	0.39	0.10	-0.25	-1.41	0.33	0.22	0.07	-0.49	0.54	0.09

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # E 4 MEAN	MIN	MAX	RMS	TAP # E 5 MEAN	MIN	MAX	RMS	TAP # E 6 MEAN	MIN	MAX	RMS	TAP # E 7 MEAN	MIN	MAX	RMS	TAP # E 8 MEAN	MIN	MAX	RMS
10	0.07	-0.34	0.57	0.07	-0.34	-1.19	0.23	0.15	-0.25	-0.88	0.46	0.14	-0.19	-1.08	0.22	0.16	-0.28	-1.05	0.06	0.13
20	0.06	-0.24	0.45	0.07	-0.28	-0.94	0.05	0.10	-0.25	-0.76	0.15	0.10	-0.25	-1.10	0.28	0.12	-0.26	-0.91	0.11	0.12
30	0.04	-0.22	0.43	0.06	-0.16	-0.84	0.05	0.08	-0.14	-0.61	0.13	0.07	-0.15	-0.77	0.09	0.09	-0.14	-0.70	0.08	0.09
40	0.02	-0.18	0.28	0.05	-0.09	-0.33	0.09	0.05	-0.08	-0.36	0.10	0.05	-0.10	-0.55	0.08	0.05	-0.09	-0.61	0.07	0.06
50	-0.01	-0.20	0.23	0.05	-0.06	-0.28	0.08	0.04	-0.05	-0.22	0.10	0.04	-0.06	-0.23	0.13	0.04	-0.06	-0.27	0.12	0.04
60	-0.05	-0.19	0.19	0.04	-0.05	-0.28	0.10	0.04	-0.04	-0.22	0.10	0.04	-0.05	-0.23	0.10	0.04	-0.04	-0.20	0.10	0.04
70	-0.10	-0.35	0.11	0.04	-0.08	-0.26	0.07	0.04	-0.08	-0.28	0.05	0.04	-0.07	-0.26	0.08	0.04	-0.07	-0.21	0.06	0.04
80	-0.12	-0.39	0.10	0.05	-0.11	-0.45	0.06	0.05	-0.11	-0.48	0.08	0.05	-0.09	-0.39	0.08	0.05	-0.10	-0.38	0.13	0.05
90	-0.14	-1.03	0.12	0.07	-0.12	-0.62	0.07	0.05	-0.12	-0.60	0.06	0.06	-0.11	-0.53	0.14	0.05	-0.12	-0.58	0.12	0.06
100	-0.19	-1.15	0.14	0.10	-0.14	-0.55	0.07	0.05	-0.16	-0.62	0.04	0.06	-0.15	-0.54	0.10	0.06	-0.16	-0.69	0.09	0.06
110	-0.17	-0.90	0.12	0.09	-0.15	-0.47	0.10	0.06	-0.17	-0.53	0.09	0.06	-0.19	-0.57	0.09	0.07	-0.18	-0.57	0.10	0.06
120	-0.16	-0.53	0.09	0.04	-0.17	-0.47	-0.02	0.04	-0.17	-0.39	-0.01	0.04	-0.18	-0.42	0.01	0.05	-0.17	-0.52	0.03	0.05
130	-0.19	-0.43	0.05	0.05	-0.21	-0.48	0.02	0.05	-0.22	-0.51	-0.04	0.05	-0.22	-0.50	-0.02	0.06	-0.21	-0.46	-0.02	0.05
140	-0.31	-0.68	-0.06	0.07	-0.30	-0.68	-0.01	0.07	-0.31	-0.72	-0.09	0.07	-0.34	-0.78	-0.04	0.08	-0.29	-0.65	-0.04	0.06
150	-0.28	-0.90	-0.01	0.07	-0.27	-0.60	0.06	0.07	-0.28	-0.68	-0.05	0.07	-0.31	-0.83	-0.07	0.08	-0.26	-0.53	-0.06	0.05
160	-0.28	-0.90	-0.07	0.08	-0.25	-0.59	0.12	0.07	-0.28	-0.76	-0.05	0.07	-0.30	-0.75	-0.07	0.08	-0.25	-0.58	-0.02	0.06
170	-0.26	-0.81	-0.01	0.07	-0.26	-0.59	-0.04	0.06	-0.26	-0.74	-0.06	0.07	-0.29	-0.90	-0.06	0.08	-0.23	-0.60	-0.04	0.05
180	-0.22	-0.59	-0.04	0.06	-0.21	-0.59	0.02	0.05	-0.22	-0.57	-0.06	0.06	-0.24	-0.69	-0.03	0.06	-0.19	-0.45	0.00	0.05
190	-0.18	-0.40	-0.04	0.04	-0.15	-0.39	-0.02	0.04	-0.17	-0.41	0.00	0.04	-0.18	-0.46	0.02	0.04	-0.16	-0.42	-0.01	0.04
200	-0.15	-0.42	0.07	0.04	-0.15	-0.41	0.16	0.04	-0.16	-0.45	0.02	0.04	-0.15	-0.40	0.16	0.04	-0.17	-0.38	0.06	0.04
210	-0.16	-0.55	0.01	0.05	-0.16	-0.41	0.12	0.05	-0.17	-0.51	0.03	0.05	-0.18	-0.50	0.11	0.05	-0.15	-0.37	0.12	0.05
220	-0.15	-0.72	0.06	0.05	-0.13	-0.38	0.22	0.05	-0.17	-0.52	0.03	0.05	-0.16	-0.45	0.09	0.05	-0.14	-0.49	0.13	0.05
230	-0.13	-0.49	0.02	0.03	-0.13	-0.29	0.10	0.04	-0.14	-0.35	-0.01	0.04	-0.13	-0.40	0.06	0.04	-0.13	-0.30	0.03	0.04
240	-0.11	-0.23	0.02	0.03	-0.13	-0.26	0.02	0.03	-0.13	-0.28	0.03	0.03	-0.13	-0.30	0.01	0.03	-0.13	-0.27	0.02	0.03
250	-0.10	-0.23	0.07	0.03	-0.11	-0.36	0.03	0.04	-0.11	-0.28	0.05	0.04	-0.11	-0.30	0.03	0.03	-0.12	-0.27	0.02	0.03
260	-0.09	-0.32	0.20	0.04	-0.09	-0.22	0.19	0.04	-0.08	-0.24	0.24	0.04	-0.09	-0.25	0.18	0.04	-0.09	-0.24	0.18	0.04
270	0.01	-0.38	0.53	0.08	0.03	-0.34	0.46	0.08	0.04	-0.26	0.75	0.09	-0.02	-0.52	0.44	0.07	-0.04	-0.29	0.43	0.06
280	0.08	-0.49	0.66	0.10	0.24	-0.07	0.67	0.10	0.24	-0.11	0.90	0.10	0.21	-0.19	0.80	0.10	0.17	-0.21	0.77	0.10
290	0.06	-0.50	0.76	0.11	0.24	-0.05	0.74	0.10	0.27	-0.04	0.88	0.12	0.26	-0.12	0.92	0.11	0.22	-0.18	0.84	0.11
300	0.08	-0.59	0.69	0.10	0.22	-0.07	0.69	0.09	0.23	-0.10	0.75	0.10	0.19	-0.34	0.84	0.12	0.15	-0.20	0.80	0.11
310	0.13	-0.36	0.67	0.11	0.18	-0.09	0.67	0.08	0.19	-0.05	0.60	0.08	0.12	-0.44	0.64	0.10	0.08	-0.26	0.59	0.08
320	0.17	-0.16	0.69	0.09	0.16	-0.31	0.58	0.08	0.17	-0.13	0.76	0.08	0.09	-0.26	0.62	0.09	0.04	-0.68	0.50	0.08
330	0.15	-0.09	0.76	0.08	0.11	-0.45	0.61	0.10	0.14	-0.49	0.72	0.10	0.03	-0.46	0.58	0.09	-0.04	-0.87	0.36	0.10
340	0.14	-0.25	0.69	0.08	0.05	-0.83	0.48	0.13	0.07	-0.88	0.64	0.14	0.00	-0.50	0.52	0.08	-0.07	-0.82	0.35	0.12
350	0.13	-0.23	0.69	0.08	-0.10	-1.08	0.39	0.13	-0.06	-0.65	0.44	0.12	-0.07	-0.56	0.21	0.08	-0.23	-0.95	0.20	0.14
360	0.08	-0.31	0.43	0.07	-0.23	-1.16	0.28	0.17	-0.17	-1.10	0.32	0.17	-0.10	-1.00	0.26	0.12	-0.22	-1.19	0.20	0.13

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # E 9 MEAN	MIN	MAX	RMS	TAP # E 10 MEAN	MIN	MAX	RMS	TAP # E 11 MEAN	MIN	MAX	RMS	TAP # E 12 MEAN	MIN	MAX	RMS	TAP # E 13 MEAN	MIN	MAX	RMS
10	-0.10	-0.71	0.10	0.08	-0.03	-0.64	0.39	0.05	-0.12	-0.52	0.21	0.07	-0.04	-0.33	0.16	0.04	-0.05	-0.34	0.17	0.04
20	-0.14	-0.89	0.09	0.10	-0.02	-0.46	0.35	0.06	-0.05	-0.44	0.36	0.06	-0.02	-0.27	0.15	0.04	-0.02	-0.30	0.18	0.04
30	-0.10	-0.78	0.11	0.07	0.00	-0.39	0.30	0.06	-0.02	-0.42	0.32	0.05	-0.01	-0.24	0.17	0.04	-0.02	-0.29	0.19	0.05
40	-0.07	-0.50	0.18	0.05	-0.03	-0.26	0.31	0.05	-0.04	-0.30	0.17	0.05	-0.05	-0.31	0.13	0.05	-0.04	-0.30	0.15	0.05
50	-0.05	-0.22	0.12	0.04	-0.05	-0.21	0.12	0.04	-0.06	-0.25	0.13	0.05	-0.07	-0.29	0.16	0.05	-0.07	-0.26	0.09	0.05
60	-0.04	-0.19	0.11	0.04	-0.04	-0.24	0.10	0.04	-0.05	-0.33	0.14	0.04	-0.07	-0.36	0.17	0.05	-0.07	-0.40	0.08	0.05
70	-0.07	-0.22	0.09	0.04	-0.07	-0.26	0.09	0.04	-0.08	-0.37	0.11	0.04	-0.10	-0.41	0.19	0.06	-0.13	-0.47	0.10	0.05
80	-0.10	-0.36	0.10	0.05	-0.11	-0.49	0.08	0.06	-0.11	-0.44	0.18	0.08	-0.11	-0.64	0.17	0.08	-0.20	-0.82	0.14	0.09
90	-0.14	-0.51	0.08	0.06	-0.18	-0.76	0.09	0.09	-0.12	-0.79	0.34	0.10	-0.07	-1.02	0.29	0.11	-0.16	-1.33	0.33	0.16
100	-0.20	-0.63	0.12	0.07	-0.27	-1.13	0.10	0.11	-0.16	-0.91	0.26	0.12	-0.10	-0.91	0.31	0.12	-0.25	-1.31	0.24	0.18
110	-0.20	-0.53	0.09	0.07	-0.29	-0.94	0.03	0.10	-0.21	-0.81	0.20	0.10	-0.16	-0.94	0.23	0.11	-0.26	-0.88	0.13	0.12
120	-0.20	-0.52	0.02	0.06	-0.28	-0.85	-0.04	0.08	-0.22	-0.64	0.03	0.08	-0.18	-0.61	0.09	0.08	-0.28	-0.80	0.04	0.10
130	-0.21	-0.57	0.00	0.06	-0.33	-1.05	0.08	0.11	-0.22	-0.75	0.10	0.09	-0.14	-0.72	0.48	0.10	-0.19	-1.00	0.19	0.09
140	-0.28	-0.63	0.00	0.06	-0.48	-1.38	-0.02	0.14	-0.25	-1.14	0.25	0.13	-0.15	-1.04	0.69	0.15	-0.22	-1.18	0.24	0.13
150	-0.24	-0.60	0.03	0.07	-0.40	-1.27	0.06	0.13	-0.23	-0.93	0.19	0.11	-0.10	-0.88	0.60	0.13	-0.17	-1.24	0.26	0.13
160	-0.22	-0.52	-0.02	0.05	-0.37	-1.23	0.01	0.13	-0.18	-0.91	0.15	0.10	-0.03	-0.82	0.71	0.12	-0.11	-0.97	0.31	0.11
170	-0.20	-0.56	-0.01	0.05	-0.36	-1.20	0.00	0.13	-0.17	-0.92	0.22	0.10	-0.04	-0.56	0.58	0.11	-0.13	-0.87	0.45	0.10
180	-0.18	-0.49	0.04	0.05	-0.26	-1.19	0.09	0.10	-0.17	-0.76	0.24	0.08	-0.05	-0.55	0.46	0.09	-0.12	-1.10	0.22	0.09
190	-0.15	-0.32	0.00	0.03	-0.19	-0.62	0.10	0.06	-0.14	-0.52	0.13	0.06	-0.08	-0.47	0.31	0.05	-0.10	-0.55	0.15	0.05
200	-0.14	-0.32	0.23	0.05	-0.19	-0.59	0.26	0.07	-0.14	-0.44	0.25	0.06	-0.07	-0.28	0.16	0.05	-0.07	-0.29	0.22	0.05
210	-0.15	-0.43	0.22	0.06	-0.17	-0.55	0.33	0.09	-0.12	-0.68	0.34	0.09	-0.05	-0.30	0.21	0.06	-0.06	-0.54	0.30	0.06
220	-0.13	-0.33	0.24	0.05	-0.16	-0.51	0.26	0.07	-0.12	-0.47	0.33	0.07	-0.09	-0.36	0.22	0.05	-0.10	-0.34	0.32	0.05
230	-0.14	-0.31	0.16	0.04	-0.15	-0.42	0.03	0.04	-0.14	-0.33	0.27	0.04	-0.12	-0.27	0.11	0.04	-0.13	-0.26	0.09	0.04
240	-0.14	-0.28	0.02	0.03	-0.15	-0.34	0.07	0.04	-0.14	-0.34	0.06	0.04	-0.12	-0.28	0.08	0.04	-0.13	-0.28	0.04	0.03
250	-0.11	-0.24	0.12	0.03	-0.12	-0.26	0.04	0.03	-0.11	-0.25	0.02	0.03	-0.11	-0.29	0.08	0.03	-0.11	-0.24	0.05	0.03
260	-0.09	-0.23	0.20	0.04	-0.09	-0.24	0.11	0.03	-0.10	-0.33	0.06	0.03	-0.10	-0.22	0.02	0.03	-0.10	-0.26	0.01	0.03
270	-0.04	-0.23	0.28	0.05	-0.07	-0.29	0.24	0.04	-0.17	-0.61	0.11	0.07	-0.14	-0.40	-0.02	0.04	-0.15	-0.65	0.03	0.05
280	0.10	-0.14	0.57	0.08	-0.05	-0.30	0.27	0.06	-0.47	-1.31	0.10	0.14	-0.35	-0.81	-0.07	0.09	-0.35	-0.92	0.07	0.10
290	0.14	-0.16	0.62	0.09	-0.04	-0.29	0.42	0.07	-0.56	-1.46	-0.12	0.13	-0.40	-0.95	-0.09	0.09	-0.40	-0.91	-0.07	0.09
300	0.10	-0.20	0.57	0.09	-0.07	-0.30	0.32	0.07	-0.53	-1.28	-0.14	0.12	-0.41	-0.88	-0.14	0.08	-0.38	-0.79	-0.05	0.08
310	0.02	-0.21	0.38	0.07	-0.11	-0.34	0.17	0.06	-0.51	-1.23	-0.03	0.11	-0.41	-0.93	-0.10	0.08	-0.40	-0.95	0.11	0.09
320	-0.01	-0.30	0.45	0.06	-0.13	-0.40	0.11	0.05	-0.48	-1.10	-0.20	0.10	-0.40	-1.00	-0.13	0.08	-0.39	-0.94	0.10	0.08
330	-0.04	-0.32	0.27	0.06	-0.14	-0.41	0.11	0.05	-0.41	-1.03	-0.12	0.08	-0.35	-0.84	-0.08	0.07	-0.36	-0.80	0.11	0.08
340	-0.06	-0.35	0.21	0.06	-0.13	-0.41	0.12	0.05	-0.33	-0.76	-0.12	0.07	-0.30	-0.90	-0.07	0.07	-0.31	-0.79	0.04	0.08
350	-0.11	-0.44	0.12	0.05	-0.12	-0.37	0.11	0.05	-0.27	-0.70	0.05	0.07	-0.24	-0.64	0.03	0.07	-0.23	-0.63	0.03	0.07
360	-0.09	-0.51	0.08	0.05	-0.07	-0.31	0.19	0.04	-0.18	-0.82	0.14	0.08	-0.10	-0.57	0.07	0.06	-0.11	-0.57	0.11	0.06

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # E 14 MEAN	MIN	MAX	RMS	TAP # E 15 MEAN	MIN	MAX	RMS	TAP # E 16 MEAN	MIN	MAX	RMS	TAP # E 17 MEAN	MIN	MAX	RMS	TAP # E 18 MEAN	MIN	MAX	RMS
10	-0.12	-0.72	0.09	0.07	-0.16	-0.44	0.06	0.05	-0.16	-0.47	0.02	0.05	-0.15	-0.52	0.01	0.05	-0.15	-0.53	0.22	0.05
20	-0.12	-0.74	0.13	0.08	-0.14	-0.62	0.04	0.06	-0.13	-0.62	0.05	0.06	-0.12	-0.53	0.05	0.06	-0.13	-0.51	0.34	0.07
30	-0.09	-0.57	0.14	0.06	-0.13	-0.47	0.05	0.06	-0.11	-0.59	0.08	0.06	-0.13	-0.69	0.06	0.06	-0.05	-0.57	0.40	0.11
40	-0.09	-0.69	0.12	0.06	-0.14	-0.49	0.08	0.06	-0.14	-0.52	0.07	0.06	-0.15	-0.60	0.03	0.07	0.00	-0.48	0.49	0.10
50	-0.10	-0.65	0.23	0.07	-0.21	-0.87	0.07	0.08	-0.21	-0.67	0.11	0.08	-0.21	-0.72	0.01	0.08	-0.04	-0.57	0.44	0.13
60	-0.04	-0.30	0.19	0.05	-0.15	-0.60	0.33	0.10	-0.11	-0.59	0.23	0.10	-0.28	-1.02	0.02	0.10	-0.01	-0.52	0.39	0.12
70	-0.05	-0.23	0.09	0.04	0.00	-0.53	0.37	0.08	0.01	-0.48	0.32	0.06	-0.28	-1.18	0.08	0.15	0.05	-0.30	0.43	0.08
80	-0.07	-0.34	0.16	0.05	0.03	-0.31	0.40	0.06	0.02	-0.32	0.27	0.05	-0.17	-1.15	0.17	0.14	0.07	-0.22	0.56	0.07
90	-0.05	-0.34	0.28	0.08	0.05	-0.22	0.39	0.06	0.04	-0.26	0.25	0.05	-0.03	-0.73	0.29	0.09	0.08	-0.16	0.52	0.06
100	-0.07	-0.40	0.35	0.08	0.04	-0.26	0.32	0.06	0.03	-0.22	0.25	0.05	-0.03	-0.69	0.40	0.09	0.07	-0.27	0.42	0.06
110	-0.11	-0.42	0.16	0.05	0.04	-0.21	0.35	0.05	0.02	-0.17	0.23	0.04	0.00	-0.55	0.32	0.07	0.07	-0.26	0.45	0.07
120	-0.13	-0.37	0.05	0.05	0.00	-0.18	0.25	0.04	-0.01	-0.18	0.15	0.04	0.01	-0.40	0.40	0.07	0.09	-0.14	0.53	0.07
130	-0.10	-0.31	0.19	0.05	0.04	-0.20	0.43	0.06	-0.01	-0.20	0.15	0.04	0.00	-0.27	0.28	0.05	-0.01	-0.65	0.32	0.08
140	-0.08	-0.38	0.26	0.06	0.05	-0.23	0.62	0.07	0.02	-0.22	0.23	0.05	-0.02	-0.27	0.41	0.06	-0.09	-0.57	0.27	0.08
150	-0.06	-0.38	0.36	0.07	0.05	-0.18	0.45	0.06	0.03	-0.15	0.26	0.05	-0.04	-0.46	0.31	0.07	-0.11	-1.02	0.34	0.11
160	-0.05	-0.40	0.34	0.07	0.05	-0.23	0.52	0.07	0.01	-0.17	0.25	0.05	-0.08	-0.36	0.24	0.07	-0.24	-1.22	0.16	0.15
170	-0.05	-0.29	0.34	0.06	0.04	-0.23	0.50	0.07	0.00	-0.19	0.22	0.05	-0.11	-0.38	0.15	0.05	-0.30	-1.64	0.32	0.15
180	-0.06	-0.35	0.30	0.05	0.01	-0.25	0.43	0.07	-0.02	-0.21	0.28	0.05	-0.10	-0.40	0.16	0.05	-0.28	-1.58	0.13	0.14
190	-0.09	-0.30	0.35	0.04	-0.05	-0.27	0.32	0.05	-0.06	-0.22	0.15	0.04	-0.11	-0.36	0.19	0.04	-0.17	-0.86	0.06	0.08
200	-0.07	-0.48	0.28	0.05	-0.08	-0.28	0.18	0.04	-0.09	-0.27	0.12	0.04	-0.13	-0.30	0.03	0.04	-0.19	-0.55	0.00	0.06
210	-0.08	-0.62	0.33	0.06	-0.07	-0.30	0.33	0.05	-0.10	-0.29	0.06	0.04	-0.15	-0.35	0.00	0.04	-0.23	-0.59	0.01	0.07
220	-0.11	-0.68	0.25	0.06	-0.10	-0.33	0.16	0.05	-0.13	-0.34	0.05	0.04	-0.16	-0.40	-0.03	0.04	-0.20	-0.71	0.02	0.07
230	-0.12	-0.41	0.11	0.04	-0.15	-0.36	0.05	0.04	-0.13	-0.28	-0.02	0.03	-0.16	-0.40	0.01	0.04	-0.13	-0.44	0.01	0.04
240	-0.14	-0.35	-0.01	0.04	-0.13	-0.28	0.02	0.03	-0.13	-0.31	-0.01	0.03	-0.13	-0.37	0.04	0.05	-0.11	-0.28	0.02	0.03
250	-0.13	-0.27	0.01	0.03	-0.12	-0.30	0.03	0.03	-0.12	-0.28	0.04	0.03	-0.13	-0.33	0.02	0.04	-0.09	-0.21	0.04	0.03
260	-0.12	-0.25	-0.01	0.03	-0.12	-0.27	0.03	0.03	-0.11	-0.26	0.03	0.03	-0.10	-0.31	0.02	0.03	-0.10	-0.24	0.05	0.03
270	-0.16	-0.58	0.01	0.05	-0.13	-0.37	0.02	0.04	-0.13	-0.38	0.01	0.04	-0.11	-0.36	0.03	0.03	-0.12	-0.29	0.03	0.04
280	-0.44	-1.26	-0.12	0.11	-0.30	-0.63	-0.07	0.07	-0.30	-0.79	0.01	0.08	-0.20	-0.51	0.10	0.06	-0.23	-0.52	-0.03	0.05
290	-0.46	-1.48	-0.11	0.11	-0.36	-0.76	-0.13	0.07	-0.37	-0.75	-0.07	0.07	-0.26	-0.56	-0.05	0.06	-0.25	-0.55	-0.02	0.06
300	-0.46	-1.28	-0.17	0.10	-0.36	-0.71	-0.12	0.07	-0.36	-0.74	-0.11	0.06	-0.26	-0.64	-0.05	0.06	-0.25	-0.53	-0.03	0.05
310	-0.46	-1.16	-0.15	0.10	-0.34	-0.80	-0.14	0.07	-0.35	-0.73	-0.10	0.07	-0.26	-0.84	-0.01	0.07	-0.23	-0.52	-0.05	0.05
320	-0.43	-1.34	-0.14	0.10	-0.32	-0.72	-0.08	0.06	-0.32	-0.84	-0.11	0.07	-0.26	-0.99	-0.01	0.08	-0.23	-0.56	0.02	0.06
330	-0.39	-0.99	-0.14	0.09	-0.30	-0.66	-0.07	0.06	-0.30	-0.72	-0.10	0.06	-0.25	-1.00	0.07	0.09	-0.21	-0.53	0.05	0.06
340	-0.36	-0.90	-0.08	0.09	-0.24	-0.56	-0.02	0.05	-0.25	-0.58	-0.05	0.06	-0.18	-0.71	0.02	0.07	-0.17	-0.55	0.07	0.06
350	-0.24	-0.90	0.00	0.08	-0.20	-0.56	0.05	0.06	-0.19	-0.63	0.09	0.06	-0.17	-0.58	0.05	0.06	-0.17	-0.50	0.15	0.06
360	-0.14	-0.65	0.05	0.06	-0.15	-0.42	0.15	0.05	-0.15	-0.47	0.12	0.05	-0.16	-0.50	0.07	0.05	-0.17	-0.47	0.18	0.05

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # E 19 MEAN	MIN	MAX	RMS	TAP # E 20 MEAN	MIN	MAX	RMS	TAP # E 21 MEAN	MIN	MAX	RMS	TAP # E 22 MEAN	MIN	MAX	RMS	TAP # E 23 MEAN	MIN	MAX	RMS
10	-0.16	-0.73	0.00	0.05	-0.18	-0.80	0.02	0.06	-0.13	-0.40	0.02	0.04	-0.07	-0.37	0.12	0.05	-0.17	-0.77	0.17	0.08
20	-0.15	-0.62	0.09	0.06	-0.15	-0.66	0.06	0.07	-0.11	-0.39	0.12	0.05	-0.01	-0.19	0.23	0.05	-0.10	-0.76	0.45	0.10
30	-0.14	-0.73	0.05	0.08	-0.20	-0.96	0.23	0.10	-0.08	-0.41	0.19	0.06	0.06	-0.16	0.51	0.07	0.05	-0.45	0.62	0.10
40	-0.15	-0.63	0.08	0.08	-0.21	-0.85	0.34	0.11	-0.06	-0.44	0.19	0.07	0.12	-0.14	0.51	0.06	0.15	-0.30	0.66	0.09
50	-0.18	-0.68	0.08	0.08	-0.27	-0.90	0.35	0.10	-0.05	-0.35	0.33	0.06	0.22	-0.02	0.57	0.06	0.32	-0.03	0.83	0.09
60	-0.12	-0.61	0.12	0.08	-0.15	-0.66	0.31	0.11	-0.01	-0.31	0.26	0.06	0.17	-0.03	0.42	0.05	0.22	-0.09	0.57	0.07
70	-0.02	-0.28	0.21	0.06	0.01	-0.47	0.49	0.08	0.06	-0.17	0.38	0.05	0.15	-0.10	0.40	0.05	0.17	-0.12	0.52	0.06
80	0.02	-0.21	0.29	0.05	0.07	-0.20	0.56	0.07	0.08	-0.17	0.55	0.06	0.11	-0.10	0.54	0.05	0.09	-0.19	0.40	0.06
90	0.06	-0.13	0.32	0.05	0.08	-0.17	0.58	0.06	0.07	-0.18	0.51	0.06	0.07	-0.13	0.40	0.06	0.01	-0.30	0.37	0.06
100	0.06	-0.18	0.44	0.06	0.07	-0.15	0.47	0.06	0.06	-0.26	0.42	0.06	0.07	-0.24	0.40	0.06	-0.04	-0.34	0.35	0.06
110	0.08	-0.20	0.60	0.07	0.05	-0.22	0.35	0.06	0.01	-0.40	0.39	0.07	0.01	-0.27	0.34	0.06	-0.08	-0.41	0.29	0.06
120	0.10	-0.15	0.50	0.07	0.05	-0.25	0.35	0.07	-0.02	-0.47	0.48	0.07	-0.03	-0.24	0.27	0.05	-0.14	-0.39	0.13	0.04
130	0.02	-0.26	0.42	0.06	-0.06	-0.46	0.20	0.07	-0.16	-0.60	0.17	0.07	-0.11	-0.32	0.14	0.04	-0.19	-0.38	0.00	0.04
140	-0.07	-0.46	0.31	0.08	-0.17	-0.64	0.17	0.08	-0.28	-0.71	-0.01	0.08	-0.18	-0.43	0.02	0.05	-0.28	-0.56	-0.07	0.05
150	-0.06	-0.69	0.32	0.09	-0.17	-0.62	0.27	0.07	-0.27	-0.84	0.00	0.08	-0.16	-0.48	0.03	0.05	-0.23	-0.52	-0.04	0.05
160	-0.13	-1.16	0.41	0.11	-0.19	-0.69	0.21	0.09	-0.33	-1.07	-0.01	0.11	-0.20	-0.57	0.01	0.06	-0.23	-0.59	-0.06	0.05
170	-0.14	-0.92	0.54	0.12	-0.19	-0.77	0.13	0.09	-0.37	-1.04	-0.10	0.11	-0.20	-0.62	-0.02	0.05	-0.21	-0.56	-0.01	0.05
180	-0.11	-1.02	0.61	0.11	-0.18	-0.78	0.18	0.08	-0.33	-1.30	-0.06	0.10	-0.18	-0.56	0.00	0.05	-0.20	-0.51	-0.01	0.05
190	-0.12	-0.69	0.25	0.07	-0.16	-0.54	0.09	0.05	-0.24	-0.77	0.00	0.07	-0.15	-0.42	-0.01	0.04	-0.15	-0.35	0.00	0.04
200	-0.15	-0.59	0.13	0.06	-0.15	-0.55	0.01	0.05	-0.22	-0.55	-0.02	0.06	-0.17	-0.39	0.02	0.04	-0.16	-0.33	0.02	0.04
210	-0.18	-0.53	0.09	0.07	-0.17	-0.59	0.05	0.06	-0.21	-0.61	-0.03	0.06	-0.16	-0.39	-0.01	0.04	-0.17	-0.44	-0.01	0.04
220	-0.17	-0.67	0.04	0.06	-0.16	-0.51	0.02	0.05	-0.19	-0.52	-0.02	0.05	-0.16	-0.36	0.01	0.04	-0.16	-0.32	-0.03	0.04
230	-0.12	-0.35	0.04	0.04	-0.13	-0.27	0.03	0.03	-0.15	-0.40	0.02	0.04	-0.13	-0.29	0.04	0.04	-0.15	-0.32	-0.01	0.04
240	-0.11	-0.26	0.05	0.03	-0.10	-0.28	0.02	0.03	-0.12	-0.28	0.01	0.03	-0.12	-0.27	0.00	0.03	-0.11	-0.26	0.05	0.03
250	-0.10	-0.26	0.02	0.03	-0.11	-0.27	0.03	0.03	-0.09	-0.21	0.02	0.03	-0.10	-0.22	0.02	0.03	-0.09	-0.22	0.04	0.03
260	-0.09	-0.23	0.04	0.03	-0.11	-0.26	0.07	0.03	-0.10	-0.22	0.03	0.03	-0.11	-0.27	0.05	0.03	-0.10	-0.26	0.02	0.03
270	-0.12	-0.27	0.02	0.03	-0.10	-0.27	0.04	0.03	-0.11	-0.28	0.01	0.03	-0.11	-0.25	0.05	0.04	-0.12	-0.37	0.03	0.04
280	-0.21	-0.45	0.01	0.05	-0.19	-0.46	0.00	0.05	-0.17	-0.39	0.04	0.05	-0.19	-0.40	-0.03	0.04	-0.25	-0.50	-0.08	0.05
290	-0.26	-0.63	-0.02	0.06	-0.24	-0.53	-0.06	0.05	-0.24	-0.45	-0.03	0.05	-0.28	-0.50	-0.12	0.05	-0.32	-0.68	-0.13	0.06
300	-0.26	-0.57	-0.03	0.06	-0.24	-0.53	-0.01	0.05	-0.26	-0.49	-0.02	0.05	-0.30	-0.58	-0.13	0.05	-0.39	-0.74	-0.12	0.07
310	-0.25	-0.67	-0.02	0.07	-0.25	-0.56	-0.02	0.05	-0.26	-0.61	-0.09	0.05	-0.32	-0.64	-0.13	0.06	-0.42	-0.99	-0.14	0.09
320	-0.23	-0.65	0.00	0.06	-0.24	-0.54	-0.01	0.06	-0.25	-0.65	-0.03	0.06	-0.33	-0.67	-0.13	0.07	-0.46	-0.96	-0.19	0.10
330	-0.21	-0.49	0.07	0.06	-0.24	-0.60	0.02	0.07	-0.24	-0.64	-0.03	0.06	-0.31	-0.67	-0.03	0.08	-0.48	-1.23	-0.11	0.12
340	-0.18	-0.49	0.01	0.05	-0.22	-0.61	-0.02	0.06	-0.19	-0.51	0.01	0.05	-0.26	-0.63	-0.02	0.07	-0.40	-1.19	-0.13	0.12
350	-0.16	-0.46	0.06	0.06	-0.21	-0.53	0.04	0.07	-0.20	-0.51	0.01	0.06	-0.22	-0.58	-0.01	0.07	-0.34	-1.25	-0.06	0.11
360	-0.16	-0.55	0.04	0.05	-0.18	-0.60	0.10	0.06	-0.15	-0.43	0.04	0.05	-0.15	-0.48	0.09	0.05	-0.28	-0.87	0.02	0.10

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # E 24 MEAN	MIN	MAX	RMS	TAP # F 1 MEAN	MIN	MAX	RMS	TAP # F 2 MEAN	MIN	MAX	RMS	TAP # F 3 MEAN	MIN	MAX	RMS	TAP # F 4 MEAN	MIN	MAX	RMS
10	-0.05	-0.33	0.31	0.07	0.09	-0.06	0.59	0.05	0.03	-0.19	0.16	0.04	0.04	-0.13	0.17	0.03	0.04	-0.13	0.21	0.03
20	0.00	-0.36	0.38	0.07	0.11	-0.06	0.47	0.05	0.02	-0.19	0.15	0.03	0.03	-0.12	0.15	0.03	0.04	-0.13	0.17	0.03
30	0.10	-0.31	0.69	0.09	0.07	-0.09	0.47	0.04	-0.01	-0.25	0.15	0.04	0.01	-0.11	0.15	0.03	0.02	-0.15	0.15	0.03
40	0.19	-0.15	0.74	0.09	0.09	-0.07	0.48	0.05	-0.01	-0.17	0.10	0.03	0.00	-0.13	0.14	0.03	0.00	-0.13	0.13	0.03
50	0.35	0.01	0.82	0.09	0.16	-0.12	0.61	0.07	-0.05	-0.31	0.10	0.04	-0.03	-0.24	0.10	0.03	-0.02	-0.17	0.10	0.03
60	0.25	0.03	0.69	0.08	0.18	-0.06	0.63	0.08	-0.06	-0.25	0.09	0.03	-0.04	-0.18	0.10	0.03	-0.05	-0.18	0.08	0.03
70	0.16	-0.23	0.53	0.07	0.13	-0.11	0.43	0.06	-0.10	-0.27	0.06	0.04	-0.09	-0.29	0.05	0.04	-0.08	-0.22	0.05	0.03
80	0.07	-0.39	0.45	0.08	0.15	-0.11	0.56	0.07	-0.10	-0.28	0.07	0.04	-0.09	-0.27	0.06	0.03	-0.13	-0.35	0.06	0.04
90	-0.02	-0.62	0.47	0.09	0.04	-0.30	0.53	0.08	-0.12	-0.35	0.03	0.04	-0.12	-0.34	0.09	0.04	-0.13	-0.33	0.03	0.04
100	-0.12	-0.78	0.44	0.10	-0.04	-0.42	0.40	0.09	-0.13	-0.30	0.04	0.04	-0.13	-0.29	0.01	0.03	-0.14	-0.33	-0.01	0.04
110	-0.16	-0.92	0.33	0.10	-0.08	-0.66	0.23	0.07	-0.11	-0.30	0.01	0.04	-0.12	-0.28	0.00	0.03	-0.15	-0.33	0.04	0.04
120	-0.25	-0.81	0.18	0.07	-0.09	-0.43	0.11	0.05	-0.10	-0.28	0.05	0.04	-0.10	-0.27	0.07	0.04	-0.14	-0.34	0.01	0.04
130	-0.25	-0.57	0.01	0.05	-0.12	-0.39	0.04	0.04	-0.11	-0.29	0.02	0.03	-0.11	-0.27	0.03	0.03	-0.12	-0.26	0.02	0.03
140	-0.34	-0.90	-0.11	0.07	-0.16	-0.38	0.05	0.04	-0.17	-0.41	0.02	0.05	-0.18	-0.47	-0.02	0.05	-0.17	-0.42	0.06	0.05
150	-0.25	-0.72	-0.07	0.06	-0.15	-0.53	0.06	0.06	-0.13	-0.44	0.05	0.05	-0.12	-0.32	0.05	0.04	-0.12	-0.34	0.10	0.04
160	-0.23	-0.98	-0.02	0.06	-0.15	-0.50	0.04	0.05	-0.12	-0.35	0.04	0.04	-0.11	-0.26	0.05	0.04	-0.12	-0.29	0.09	0.04
170	-0.25	-0.61	-0.07	0.06	-0.13	-0.41	0.10	0.05	-0.10	-0.28	0.09	0.04	-0.11	-0.29	0.09	0.04	-0.12	-0.30	0.10	0.04
180	-0.21	-0.57	0.00	0.06	-0.13	-0.37	0.06	0.04	-0.09	-0.25	0.04	0.03	-0.09	-0.25	0.05	0.03	-0.12	-0.34	0.06	0.04
190	-0.18	-0.46	0.01	0.04	-0.12	-0.34	0.02	0.04	-0.10	-0.26	0.11	0.04	-0.08	-0.29	0.18	0.04	-0.10	-0.31	0.14	0.04
200	-0.16	-0.39	0.01	0.04	-0.12	-0.27	0.02	0.03	-0.10	-0.33	0.08	0.05	-0.10	-0.32	0.13	0.05	-0.11	-0.45	0.21	0.06
210	-0.17	-0.50	0.00	0.04	-0.13	-0.30	0.02	0.04	-0.13	-0.40	0.08	0.04	-0.15	-0.43	0.05	0.05	-0.16	-0.43	0.14	0.05
220	-0.16	-0.37	-0.01	0.04	-0.11	-0.29	0.05	0.03	-0.16	-0.42	0.01	0.04	-0.16	-0.40	0.02	0.04	-0.17	-0.36	0.05	0.04
230	-0.13	-0.30	0.01	0.04	-0.12	-0.24	0.03	0.03	-0.13	-0.26	0.01	0.03	-0.15	-0.30	-0.02	0.03	-0.15	-0.30	0.01	0.03
240	-0.12	-0.29	0.01	0.03	-0.11	-0.22	0.00	0.03	-0.14	-0.29	0.04	0.04	-0.13	-0.26	0.02	0.03	-0.12	-0.30	0.06	0.04
250	-0.10	-0.27	0.02	0.03	-0.10	-0.26	0.03	0.03	-0.11	-0.36	0.22	0.05	-0.11	-0.32	0.31	0.05	-0.09	-0.26	0.25	0.05
260	-0.11	-0.24	0.02	0.03	-0.10	-0.23	0.03	0.03	-0.07	-0.35	0.45	0.06	-0.05	-0.28	0.45	0.07	-0.04	-0.26	0.58	0.08
270	-0.11	-0.28	0.01	0.03	-0.10	-0.24	0.03	0.03	0.02	-0.25	0.42	0.07	0.12	-0.17	0.56	0.10	0.14	-0.15	0.83	0.11
280	-0.26	-0.54	-0.10	0.05	-0.09	-0.26	0.06	0.03	0.07	-0.12	0.43	0.06	0.16	-0.12	0.64	0.09	0.13	-0.13	1.00	0.11
290	-0.32	-0.61	-0.16	0.05	-0.09	-0.24	0.07	0.03	0.02	-0.19	0.34	0.06	0.07	-0.19	0.67	0.09	0.06	-0.16	0.74	0.08
300	-0.35	-0.80	-0.17	0.06	-0.08	-0.24	0.09	0.03	-0.01	-0.19	0.23	0.05	0.04	-0.17	0.35	0.06	0.03	-0.11	0.49	0.06
310	-0.38	-0.74	-0.16	0.07	-0.07	-0.27	0.09	0.04	0.01	-0.16	0.26	0.05	0.03	-0.28	0.43	0.05	0.03	-0.19	0.45	0.06
320	-0.44	-0.96	0.02	0.09	-0.06	-0.27	0.12	0.04	0.04	-0.19	0.34	0.05	0.03	-0.23	0.25	0.04	0.04	-0.13	0.27	0.04
330	-0.40	-0.93	-0.01	0.10	-0.01	-0.20	0.18	0.04	0.04	-0.15	0.36	0.05	0.03	-0.19	0.24	0.04	0.03	-0.14	0.32	0.04
340	-0.32	-0.88	-0.03	0.10	0.01	-0.19	0.19	0.04	0.05	-0.16	0.44	0.05	0.03	-0.22	0.28	0.04	0.02	-0.20	0.23	0.04
350	-0.28	-1.14	0.10	0.12	0.03	-0.14	0.22	0.04	0.04	-0.14	0.46	0.05	0.04	-0.18	0.22	0.04	0.06	-0.17	0.29	0.04
360	-0.15	-0.69	0.22	0.08	0.07	-0.11	0.29	0.04	0.04	-0.14	0.32	0.04	0.04	-0.21	0.30	0.04	0.05	-0.10	0.26	0.04

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # F 5 MEAN	MIN	MAX	RMS	TAP # F 6 MEAN	MIN	MAX	RMS	TAP # F 7 MEAN	MIN	MAX	RMS	TAP # F 8 MEAN	MIN	MAX	RMS	TAP # F 9 MEAN	MIN	MAX	RMS
10	0.05	-0.08	0.19	0.03	0.03	-0.23	0.21	0.04	0.06	-0.08	0.25	0.04	0.06	-0.12	0.26	0.04	0.10	-0.14	0.43	0.05
20	0.04	-0.10	0.17	0.03	0.02	-0.22	0.16	0.04	0.05	-0.11	0.18	0.03	0.06	-0.15	0.24	0.04	0.11	-0.13	0.52	0.06
30	0.02	-0.21	0.15	0.03	0.01	-0.20	0.15	0.03	0.03	-0.13	0.18	0.03	0.02	-0.21	0.22	0.04	0.07	-0.11	0.42	0.05
40	-0.01	-0.21	0.15	0.04	-0.02	-0.21	0.10	0.03	-0.01	-0.19	0.13	0.03	-0.01	-0.27	0.23	0.05	0.05	-0.14	0.31	0.04
50	-0.03	-0.25	0.15	0.04	-0.04	-0.22	0.10	0.03	-0.04	-0.18	0.12	0.04	-0.05	-0.42	0.24	0.07	0.06	-0.15	0.32	0.05
60	-0.05	-0.29	0.12	0.04	-0.03	-0.24	0.07	0.04	-0.07	-0.23	0.07	0.04	-0.09	-0.39	0.17	0.06	0.03	-0.15	0.33	0.05
70	-0.09	-0.31	0.11	0.04	-0.10	-0.25	0.04	0.03	-0.11	-0.29	0.06	0.04	-0.13	-0.38	0.13	0.06	-0.03	-0.20	0.16	0.04
80	-0.11	-0.34	0.08	0.05	-0.13	-0.29	0.01	0.04	-0.15	-0.32	0.05	0.04	-0.16	-0.41	0.06	0.06	-0.05	-0.24	0.22	0.05
90	-0.13	-0.45	0.15	0.05	-0.14	-0.34	0.00	0.04	-0.18	-0.40	0.01	0.05	-0.15	-0.48	0.12	0.06	-0.06	-0.31	0.19	0.06
100	-0.11	-0.32	0.45	0.07	-0.17	-0.36	0.00	0.04	-0.17	-0.39	0.04	0.05	-0.16	-0.52	0.43	0.08	-0.08	-0.29	0.16	0.05
110	-0.08	-0.38	0.36	0.07	-0.14	-0.40	0.07	0.05	-0.13	-0.33	0.08	0.05	-0.10	-0.47	0.40	0.10	-0.11	-0.37	0.08	0.05
120	-0.09	-0.43	0.20	0.06	-0.13	-0.31	0.06	0.04	-0.11	-0.29	0.10	0.04	-0.08	-0.39	0.49	0.08	-0.14	-0.37	0.08	0.04
130	-0.13	-0.34	0.07	0.04	-0.13	-0.30	0.00	0.03	-0.14	-0.30	0.01	0.04	-0.14	-0.43	0.21	0.05	-0.16	-0.30	0.02	0.04
140	-0.19	-0.42	0.06	0.05	-0.19	-0.45	-0.02	0.04	-0.19	-0.43	0.01	0.05	-0.18	-0.45	0.07	0.06	-0.20	-0.46	0.01	0.05
150	-0.15	-0.44	0.26	0.05	-0.15	-0.39	0.14	0.05	-0.17	-0.51	-0.01	0.05	-0.17	-0.51	0.08	0.05	-0.20	-0.45	0.00	0.05
160	-0.15	-0.48	0.16	0.05	-0.15	-0.35	0.04	0.04	-0.16	-0.35	0.03	0.04	-0.15	-0.41	0.06	0.05	-0.17	-0.43	0.06	0.05
170	-0.12	-0.38	0.43	0.05	-0.14	-0.38	0.11	0.04	-0.15	-0.35	0.04	0.04	-0.15	-0.43	0.03	0.05	-0.16	-0.41	0.01	0.04
180	-0.11	-0.33	0.23	0.04	-0.14	-0.31	0.11	0.04	-0.14	-0.31	0.03	0.04	-0.11	-0.30	0.05	0.04	-0.15	-0.31	0.01	0.04
190	-0.12	-0.42	0.20	0.05	-0.12	-0.36	0.12	0.04	-0.14	-0.36	0.02	0.04	-0.14	-0.31	0.04	0.04	-0.13	-0.32	0.00	0.03
200	-0.10	-0.42	0.61	0.07	-0.11	-0.35	0.28	0.06	-0.14	-0.37	0.12	0.05	-0.13	-0.31	0.06	0.04	-0.14	-0.30	0.04	0.04
210	-0.11	-0.40	0.51	0.08	-0.10	-0.40	0.43	0.07	-0.13	-0.47	0.19	0.05	-0.13	-0.30	0.10	0.04	-0.15	-0.38	0.06	0.05
220	-0.11	-0.43	0.43	0.06	-0.16	-0.46	0.16	0.06	-0.13	-0.42	0.08	0.05	-0.14	-0.31	0.03	0.04	-0.13	-0.30	0.00	0.04
230	-0.13	-0.32	0.10	0.04	-0.14	-0.34	0.13	0.04	-0.13	-0.27	0.03	0.03	-0.12	-0.29	0.04	0.04	-0.12	-0.27	0.00	0.03
240	-0.13	-0.25	0.05	0.03	-0.12	-0.27	0.01	0.03	-0.12	-0.25	-0.01	0.03	-0.12	-0.27	0.04	0.04	-0.13	-0.27	0.02	0.03
250	-0.11	-0.26	0.03	0.03	-0.11	-0.30	0.03	0.03	-0.11	-0.27	0.04	0.03	-0.10	-0.24	0.03	0.03	-0.11	-0.24	0.04	0.03
260	-0.11	-0.38	0.10	0.04	-0.08	-0.36	0.21	0.05	-0.10	-0.25	0.04	0.04	-0.10	-0.24	0.03	0.03	-0.10	-0.25	0.07	0.03
270	-0.05	-0.38	0.22	0.05	0.01	-0.25	0.51	0.07	-0.10	-0.32	0.17	0.04	-0.10	-0.26	0.05	0.03	-0.11	-0.26	0.03	0.03
280	-0.01	-0.30	0.27	0.05	0.03	-0.26	0.54	0.07	-0.11	-0.51	0.10	0.05	-0.11	-0.24	0.07	0.03	-0.11	-0.25	0.00	0.03
290	0.01	-0.17	0.28	0.05	-0.02	-0.32	0.44	0.07	-0.13	-0.39	0.09	0.05	-0.12	-0.27	0.06	0.04	-0.14	-0.34	0.02	0.04
300	0.01	-0.17	0.29	0.05	-0.01	-0.32	0.31	0.06	-0.10	-0.44	0.12	0.06	-0.11	-0.25	0.05	0.03	-0.12	-0.28	0.06	0.03
310	0.03	-0.18	0.26	0.04	-0.01	-0.28	0.23	0.06	-0.08	-0.40	0.13	0.05	-0.08	-0.24	0.08	0.03	-0.10	-0.25	0.09	0.04
320	0.03	-0.15	0.24	0.04	0.01	-0.28	0.27	0.05	-0.04	-0.26	0.22	0.05	-0.05	-0.22	0.13	0.04	-0.06	-0.27	0.16	0.04
330	0.04	-0.16	0.26	0.04	0.02	-0.19	0.30	0.05	0.01	-0.29	0.24	0.05	-0.02	-0.21	0.19	0.04	-0.03	-0.26	0.28	0.05
340	0.04	-0.16	0.23	0.04	0.04	-0.16	0.25	0.04	0.03	-0.23	0.29	0.05	0.02	-0.13	0.22	0.04	0.00	-0.23	0.37	0.05
350	0.04	-0.11	0.23	0.04	0.03	-0.31	0.28	0.05	0.05	-0.12	0.30	0.04	0.05	-0.14	0.22	0.04	0.04	-0.21	0.40	0.05
360	0.05	-0.10	0.20	0.03	0.04	-0.27	0.18	0.04	0.07	-0.09	0.28	0.04	0.06	-0.09	0.24	0.04	0.08	-0.21	0.66	0.06

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # F 10 MEAN	MIN	MAX	RMS	TAP # F 11 MEAN	MIN	MAX	RMS	TAP # F 12 MEAN	MIN	MAX	RMS	TAP # F 13 MEAN	MIN	MAX	RMS	TAP # F 14 MEAN	MIN	MAX	RMS
10	0.05	-0.12	0.34	0.04	0.01	-0.43	0.29	0.07	0.07	-0.10	0.42	0.05	0.07	-0.16	0.63	0.06	-0.02	-0.28	0.17	0.05
20	0.04	-0.12	0.20	0.04	-0.01	-0.38	0.17	0.06	0.05	-0.14	0.28	0.04	0.07	-0.15	0.36	0.05	-0.03	-0.37	0.13	0.05
30	0.02	-0.16	0.23	0.04	-0.01	-0.27	0.14	0.04	0.02	-0.16	0.19	0.04	0.04	-0.23	0.28	0.04	0.00	-0.22	0.11	0.04
40	0.00	-0.15	0.15	0.03	-0.02	-0.18	0.13	0.04	-0.01	-0.15	0.14	0.03	0.01	-0.23	0.15	0.03	0.00	-0.16	0.17	0.03
50	-0.02	-0.22	0.12	0.03	-0.03	-0.19	0.10	0.03	-0.03	-0.20	0.10	0.03	-0.01	-0.25	0.19	0.04	0.01	-0.14	0.15	0.03
60	-0.05	-0.21	0.07	0.03	-0.04	-0.16	0.08	0.03	-0.04	-0.18	0.10	0.03	-0.03	-0.27	0.18	0.04	-0.01	-0.19	0.16	0.03
70	-0.09	-0.26	0.06	0.03	-0.08	-0.20	0.03	0.03	-0.08	-0.22	0.05	0.03	-0.07	-0.40	0.15	0.04	-0.06	-0.24	0.10	0.04
80	-0.12	-0.30	0.04	0.04	-0.11	-0.28	0.03	0.03	-0.11	-0.27	0.04	0.04	-0.09	-0.50	0.14	0.04	-0.08	-0.27	0.08	0.04
90	-0.17	-0.39	0.00	0.04	-0.14	-0.30	-0.02	0.04	-0.14	-0.30	0.04	0.04	-0.12	-0.47	0.12	0.05	-0.11	-0.37	0.05	0.05
100	-0.15	-0.37	0.01	0.04	-0.16	-0.59	0.02	0.04	-0.15	-0.45	0.01	0.04	-0.13	-0.52	0.11	0.06	-0.11	-0.36	0.08	0.04
110	-0.13	-0.30	0.02	0.04	-0.14	-0.45	0.03	0.04	-0.12	-0.37	0.05	0.05	-0.11	-0.35	0.09	0.04	-0.12	-0.46	0.06	0.04
120	-0.13	-0.32	0.03	0.04	-0.13	-0.31	0.02	0.03	-0.12	-0.27	0.01	0.03	-0.13	-0.27	0.00	0.03	-0.13	-0.38	0.05	0.04
130	-0.16	-0.34	-0.01	0.04	-0.15	-0.36	0.00	0.03	-0.14	-0.28	-0.02	0.03	-0.15	-0.28	0.00	0.03	-0.16	-0.38	0.03	0.04
140	-0.22	-0.51	-0.03	0.05	-0.20	-0.48	-0.04	0.04	-0.22	-0.41	-0.04	0.04	-0.20	-0.40	-0.04	0.04	-0.20	-0.46	0.03	0.05
150	-0.20	-0.65	0.01	0.06	-0.17	-0.36	0.01	0.04	-0.17	-0.36	-0.01	0.04	-0.16	-0.39	0.03	0.04	-0.16	-0.50	0.03	0.05
160	-0.19	-0.53	-0.01	0.04	-0.16	-0.48	0.06	0.04	-0.16	-0.33	-0.02	0.04	-0.16	-0.35	0.01	0.04	-0.16	-0.40	0.04	0.04
170	-0.16	-0.42	-0.02	0.04	-0.15	-0.36	0.01	0.04	-0.16	-0.37	0.00	0.04	-0.15	-0.33	0.01	0.03	-0.15	-0.41	0.06	0.04
180	-0.16	-0.35	-0.02	0.04	-0.14	-0.37	0.04	0.04	-0.15	-0.30	-0.02	0.03	-0.13	-0.28	0.01	0.03	-0.14	-0.34	0.05	0.04
190	-0.16	-0.30	0.02	0.03	-0.12	-0.33	0.05	0.04	-0.14	-0.28	0.04	0.03	-0.13	-0.29	0.00	0.03	-0.14	-0.39	0.01	0.04
200	-0.14	-0.37	0.04	-0.15	-0.49	0.13	0.05	-0.15	-0.44	0.08	0.05	-0.16	-0.42	0.00	0.05	-0.15	-0.42	0.10	0.05	
210	-0.16	-0.41	0.07	0.05	-0.18	-0.64	0.15	0.06	-0.20	-0.64	0.02	0.06	-0.18	-0.52	-0.01	0.05	-0.19	-0.54	0.04	0.05
220	-0.15	-0.44	0.09	0.04	-0.18	-0.52	0.03	0.05	-0.22	-0.58	-0.02	0.05	-0.19	-0.48	-0.03	0.04	-0.20	-0.41	-0.02	0.04
230	-0.14	-0.31	0.01	0.03	-0.15	-0.37	-0.02	0.03	-0.16	-0.34	-0.03	0.03	-0.16	-0.30	0.00	0.03	-0.18	-0.39	-0.03	0.04
240	-0.12	-0.24	0.02	0.03	-0.14	-0.31	-0.01	0.03	-0.13	-0.31	0.00	0.03	-0.11	-0.27	0.04	0.03	-0.17	-0.35	0.02	0.04
250	-0.11	-0.27	0.03	0.04	-0.11	-0.29	0.17	0.04	-0.10	-0.24	0.10	0.03	-0.10	-0.24	0.07	0.03	-0.14	-0.30	0.06	0.03
260	-0.11	-0.28	0.08	0.03	-0.08	-0.24	0.28	0.05	-0.09	-0.25	0.32	0.04	-0.10	-0.24	0.13	0.04	-0.11	-0.28	0.10	0.04
270	-0.07	-0.38	0.17	0.05	0.04	-0.25	0.59	0.08	0.03	-0.22	0.52	0.08	0.00	-0.22	0.50	0.06	-0.05	-0.43	0.34	0.07
280	-0.13	-0.50	0.20	0.08	0.03	-0.21	0.55	0.07	0.09	-0.26	0.47	0.07	0.06	-0.21	0.44	0.07	0.10	-0.32	0.56	0.08
290	-0.15	-0.70	0.20	0.08	0.03	-0.22	0.47	0.06	0.10	-0.12	0.49	0.07	0.08	-0.15	0.43	0.06	0.09	-0.11	0.60	0.07
300	-0.11	-0.48	0.25	0.09	0.03	-0.23	0.38	0.05	0.08	-0.09	0.39	0.05	0.08	-0.11	0.55	0.06	0.09	-0.19	0.51	0.07
310	-0.07	-0.44	0.33	0.08	0.04	-0.19	0.37	0.06	0.10	-0.11	0.46	0.06	0.09	-0.06	0.54	0.05	0.10	-0.25	0.42	0.06
320	-0.04	-0.39	0.40	0.06	0.04	-0.19	0.38	0.05	0.09	-0.11	0.50	0.05	0.08	-0.21	0.37	0.05	0.08	-0.23	0.47	0.06
330	-0.01	-0.24	0.48	0.06	0.05	-0.27	0.40	0.05	0.09	-0.12	0.39	0.05	0.08	-0.12	0.41	0.05	0.07	-0.38	0.42	0.07
340	0.02	-0.28	0.38	0.06	0.06	-0.21	0.47	0.06	0.07	-0.17	0.59	0.06	0.07	-0.21	0.46	0.06	0.06	-0.53	0.33	0.08
350	0.08	-0.17	0.42	0.06	0.09	-0.20	0.47	0.07	0.10	-0.21	0.46	0.07	0.10	-0.13	0.62	0.07	-0.01	-0.41	0.30	0.07
360	0.07	-0.15	0.33	0.05	0.05	-0.44	0.32	0.06	0.09	-0.16	0.51	0.06	0.09	-0.19	0.65	0.07	-0.02	-0.39	0.32	0.07

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # F 15 MEAN	MIN	MAX	RMS	TAP # F 16 MEAN	MIN	MAX	RMS	TAP # F 17 MEAN	MIN	MAX	RMS	TAP # G 1 MEAN	MIN	MAX	RMS	TAP # G 2 MEAN	MIN	MAX	RMS
10	-0.01	-0.20	0.18	0.04	-0.02	-0.22	0.25	0.04	-0.06	-0.41	0.17	0.05	0.08	-0.32	0.35	0.06	0.09	-0.30	0.43	0.06
20	-0.01	-0.26	0.14	0.04	-0.03	-0.37	0.29	0.05	-0.04	-0.28	0.23	0.05	0.11	-0.09	0.42	0.05	0.12	-0.15	0.43	0.06
30	0.00	-0.17	0.16	0.04	-0.01	-0.22	0.37	0.04	-0.02	-0.28	0.16	0.04	0.11	-0.07	0.41	0.05	0.09	-0.08	0.41	0.05
40	0.01	-0.22	0.17	0.04	-0.03	-0.36	0.23	0.05	-0.04	-0.34	0.17	0.05	0.14	-0.02	0.45	0.05	0.10	-0.06	0.39	0.05
50	-0.01	-0.28	0.15	0.04	-0.05	-0.32	0.10	0.04	-0.04	-0.50	0.28	0.06	0.24	0.05	0.62	0.06	0.17	-0.05	0.59	0.07
60	-0.03	-0.22	0.21	0.04	-0.04	-0.22	0.11	0.04	0.03	-0.17	0.29	0.05	0.19	-0.06	0.68	0.06	0.15	-0.12	0.47	0.07
70	-0.05	-0.38	0.14	0.04	-0.07	-0.26	0.06	0.04	0.05	-0.13	0.29	0.05	0.11	-0.08	0.38	0.05	0.06	-0.14	0.38	0.06
80	-0.06	-0.35	0.14	0.05	-0.10	-0.31	0.09	0.05	0.04	-0.16	0.26	0.04	0.15	-0.08	0.49	0.07	0.08	-0.18	0.42	0.07
90	-0.10	-0.45	0.08	0.05	-0.17	-0.61	0.07	0.06	0.07	-0.18	0.35	0.06	0.09	-0.11	0.47	0.06	0.05	-0.21	0.39	0.08
100	-0.14	-0.46	0.06	0.05	-0.22	-0.53	0.04	0.06	0.06	-0.22	0.34	0.07	0.00	-0.21	0.31	0.05	-0.04	-0.21	0.36	0.06
110	-0.15	-0.39	0.06	0.04	-0.21	-0.48	-0.01	0.05	0.01	-0.25	0.29	0.06	-0.05	-0.25	0.16	0.04	-0.08	-0.23	0.13	0.04
120	-0.18	-0.40	0.02	0.04	-0.22	-0.40	-0.03	0.04	-0.03	-0.23	0.19	0.04	-0.09	-0.26	0.05	0.04	-0.11	-0.26	0.02	0.03
130	-0.20	-0.42	-0.06	0.04	-0.25	-0.49	-0.06	0.05	-0.06	-0.25	0.27	0.06	-0.13	-0.24	0.01	0.03	-0.14	-0.25	-0.02	0.03
140	-0.24	-0.48	-0.01	0.05	-0.31	-0.77	0.00	0.08	-0.04	-0.46	0.29	0.08	-0.16	-0.31	0.00	0.03	-0.18	-0.34	-0.04	0.04
150	-0.20	-0.42	0.03	0.05	-0.25	-0.72	0.00	0.08	-0.04	-0.31	0.57	0.08	-0.14	-0.35	0.02	0.04	-0.16	-0.38	0.00	0.04
160	-0.17	-0.45	0.03	0.04	-0.21	-0.56	0.02	0.06	-0.06	-0.49	0.29	0.07	-0.16	-0.35	-0.03	0.03	-0.15	-0.33	0.00	0.04
170	-0.17	-0.41	0.04	0.04	-0.19	-0.55	0.00	0.05	-0.06	-0.33	0.34	0.06	-0.14	-0.28	-0.01	0.03	-0.15	-0.34	0.01	0.04
180	-0.15	-0.37	0.01	0.04	-0.19	-0.49	0.04	0.05	-0.07	-0.35	0.27	0.05	-0.14	-0.28	0.00	0.03	-0.13	-0.33	0.00	0.04
190	-0.15	-0.31	-0.01	0.03	-0.17	-0.35	0.01	0.04	-0.10	-0.27	0.09	0.04	-0.13	-0.28	0.01	0.03	-0.13	-0.26	-0.01	0.03
200	-0.16	-0.43	0.02	0.04	-0.19	-0.42	0.02	0.05	-0.08	-0.32	0.14	0.05	-0.13	-0.25	0.00	0.03	-0.12	-0.26	0.02	0.03
210	-0.20	-0.46	0.02	0.05	-0.25	-0.60	0.04	0.06	-0.08	-0.39	0.21	0.06	-0.12	-0.27	0.03	0.03	-0.13	-0.30	0.04	0.04
220	-0.20	-0.38	-0.03	0.05	-0.22	-0.48	-0.06	0.05	-0.10	-0.33	0.11	0.05	-0.13	-0.25	-0.01	0.03	-0.13	-0.26	-0.01	0.03
230	-0.19	-0.35	-0.03	0.04	-0.17	-0.38	-0.04	0.04	-0.13	-0.34	0.07	0.04	-0.11	-0.26	0.02	0.03	-0.11	-0.24	0.02	0.03
240	-0.16	-0.36	0.05	0.05	-0.13	-0.30	0.00	0.03	-0.13	-0.40	0.08	0.04	-0.09	-0.22	0.05	0.03	-0.10	-0.24	0.02	0.03
250	-0.12	-0.28	-0.01	0.03	-0.14	-0.30	0.03	0.03	-0.13	-0.33	0.05	0.04	-0.09	-0.23	0.05	0.03	-0.06	-0.19	0.07	0.03
260	-0.11	-0.40	0.03	0.03	-0.11	-0.24	0.00	0.03	-0.12	-0.26	0.00	0.03	-0.10	-0.21	0.01	0.03	-0.11	-0.23	0.05	0.03
270	-0.07	-0.36	0.19	0.05	-0.10	-0.41	0.13	0.04	-0.18	-0.89	-0.01	0.06	-0.11	-0.28	0.04	0.03	-0.11	-0.40	0.08	0.04
280	0.04	-0.26	0.52	0.08	-0.08	-0.45	0.26	0.07	-0.47	-1.00	-0.13	0.12	-0.13	-0.34	0.03	0.04	-0.21	-0.49	-0.06	0.05
290	0.04	-0.32	0.48	0.07	-0.08	-0.42	0.32	0.08	-0.50	-1.21	-0.13	0.11	-0.23	-0.45	-0.10	0.04	-0.35	-0.71	-0.13	0.07
300	0.05	-0.27	0.44	0.07	-0.08	-0.47	0.33	0.07	-0.51	-1.13	-0.21	0.10	-0.25	-0.50	-0.03	0.04	-0.39	-0.81	-0.17	0.07
310	0.02	-0.32	0.40	0.06	-0.09	-0.31	0.24	0.06	-0.48	-1.14	-0.14	0.10	-0.24	-0.48	0.00	0.04	-0.39	-0.81	-0.15	0.08
320	0.03	-0.29	0.43	0.05	-0.09	-0.33	0.25	0.05	-0.45	-1.07	-0.08	0.10	-0.26	-0.60	-0.05	0.06	-0.36	-0.83	-0.09	0.08
330	0.02	-0.23	0.39	0.05	-0.09	-0.41	0.23	0.05	-0.41	-0.87	-0.03	0.09	-0.25	-0.74	0.00	0.07	-0.31	-0.94	-0.03	0.09
340	0.02	-0.23	0.24	0.05	-0.09	-0.27	0.35	0.05	-0.36	-0.87	-0.07	0.09	-0.17	-0.52	0.08	0.07	-0.20	-0.82	0.09	0.08
350	-0.01	-0.31	0.20	0.05	-0.09	-0.41	0.15	0.05	-0.27	-0.80	-0.03	0.09	-0.10	-0.45	0.12	0.06	-0.11	-0.59	0.14	0.07
360	0.00	-0.22	0.20	0.05	-0.05	-0.26	0.16	0.04	-0.11	-0.59	0.07	0.06	-0.01	-0.41	0.25	0.06	-0.02	-0.34	0.34	0.07

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MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # G 3 MEAN	MIN	MAX	RMS	TAP # G 4 MEAN	MIN	MAX	RMS	TAP # G 5 MEAN	MIN	MAX	RMS	TAP # G 6 MEAN	MIN	MAX	RMS	TAP # G 7 MEAN	MIN	MAX	RMS
10	0.08	-0.07	0.30	0.04	0.07	-0.07	0.26	0.04	0.06	-0.10	0.23	0.04	0.06	-0.14	0.36	0.04	0.03	-0.13	0.16	0.03
20	0.10	-0.06	0.34	0.04	0.09	-0.08	0.33	0.04	0.07	-0.10	0.20	0.03	0.04	-0.11	0.28	0.04	0.01	-0.15	0.18	0.03
30	0.09	-0.07	0.43	0.05	0.09	-0.07	0.35	0.04	0.05	-0.15	0.19	0.04	0.02	-0.14	0.29	0.04	0.00	-0.16	0.13	0.03
40	0.12	-0.07	0.46	0.05	0.09	-0.05	0.41	0.05	0.03	-0.10	0.19	0.03	-0.01	-0.18	0.19	0.03	-0.01	-0.14	0.12	0.03
50	0.22	-0.03	0.73	0.08	0.20	-0.02	0.64	0.08	0.02	-0.12	0.19	0.04	-0.06	-0.35	0.11	0.05	-0.05	-0.26	0.09	0.04
60	0.23	0.00	0.57	0.07	0.17	-0.05	0.54	0.06	-0.01	-0.15	0.13	0.03	-0.07	-0.28	0.09	0.04	-0.05	-0.22	0.11	0.03
70	0.16	-0.04	0.47	0.06	0.13	-0.06	0.43	0.06	-0.03	-0.20	0.11	0.03	-0.10	-0.32	0.02	0.04	-0.10	-0.26	0.04	0.04
80	0.17	-0.04	0.40	0.06	0.10	-0.06	0.36	0.05	-0.07	-0.21	0.11	0.03	-0.09	-0.27	0.06	0.04	-0.09	-0.26	0.06	0.04
90	0.19	-0.11	0.54	0.07	0.13	-0.09	0.43	0.06	-0.10	-0.26	0.04	0.04	-0.11	-0.33	0.03	0.04	-0.11	-0.30	0.05	0.04
100	0.10	-0.22	0.44	0.09	0.08	-0.21	0.44	0.07	-0.10	-0.28	0.07	0.04	-0.12	-0.41	0.04	0.05	-0.12	-0.37	0.03	0.04
110	-0.02	-0.26	0.34	0.06	0.01	-0.21	0.37	0.07	-0.10	-0.25	0.08	0.04	-0.11	-0.40	0.08	0.05	-0.11	-0.25	0.05	0.04
120	-0.07	-0.23	0.11	0.04	-0.08	-0.20	0.06	0.03	-0.10	-0.25	0.02	0.03	-0.10	-0.28	0.05	0.04	-0.10	-0.22	0.05	0.03
130	-0.10	-0.25	0.04	0.04	-0.10	-0.22	0.03	0.03	-0.11	-0.24	0.01	0.03	-0.10	-0.25	0.00	0.03	-0.11	-0.26	0.05	0.03
140	-0.14	-0.28	0.01	0.03	-0.13	-0.29	0.00	0.04	-0.15	-0.30	0.00	0.04	-0.17	-0.43	0.02	0.05	-0.17	-0.45	0.02	0.05
150	-0.12	-0.31	0.06	0.04	-0.11	-0.26	0.04	0.04	-0.11	-0.25	0.02	0.03	-0.13	-0.43	0.06	0.05	-0.12	-0.40	0.04	0.04
160	-0.12	-0.32	0.02	0.04	-0.12	-0.32	0.03	0.04	-0.10	-0.29	0.03	0.03	-0.12	-0.30	0.05	0.03	-0.12	-0.29	0.05	0.04
170	-0.11	-0.35	0.06	0.04	-0.10	-0.24	0.05	0.03	-0.10	-0.24	0.04	0.03	-0.10	-0.29	0.06	0.04	-0.10	-0.34	0.05	0.04
180	-0.11	-0.26	0.02	0.03	-0.11	-0.26	0.05	0.04	-0.08	-0.21	0.05	0.03	-0.10	-0.22	0.03	0.03	-0.09	-0.27	0.06	0.03
190	-0.10	-0.23	0.03	0.03	-0.10	-0.26	0.07	0.03	-0.09	-0.24	0.04	0.03	-0.10	-0.29	0.05	0.03	-0.09	-0.25	0.07	0.03
200	-0.12	-0.26	0.05	0.03	-0.09	-0.24	0.07	0.03	-0.11	-0.26	0.04	0.03	-0.11	-0.30	0.09	0.04	-0.09	-0.36	0.10	0.05
210	-0.12	-0.26	0.03	0.03	-0.10	-0.25	0.06	0.03	-0.11	-0.25	0.06	0.04	-0.14	-0.31	0.02	0.04	-0.14	-0.36	0.06	0.05
220	-0.11	-0.25	0.02	0.03	-0.11	-0.24	0.03	0.03	-0.13	-0.28	0.00	0.03	-0.15	-0.32	-0.01	0.04	-0.16	-0.37	0.00	0.04
230	-0.10	-0.21	0.03	0.03	-0.11	-0.22	0.02	0.03	-0.11	-0.21	0.02	0.03	-0.14	-0.30	0.02	0.03	-0.12	-0.29	0.05	0.04
240	-0.08	-0.23	0.04	0.03	-0.11	-0.26	0.03	0.03	-0.08	-0.24	0.07	0.03	-0.10	-0.29	0.07	0.04	-0.14	-0.31	0.03	0.04
250	-0.12	-0.29	0.04	0.04	-0.10	-0.23	0.05	0.03	-0.10	-0.29	0.07	0.04	-0.08	-0.38	0.21	0.05	-0.13	-0.39	0.06	0.05
260	-0.10	-0.25	0.05	0.03	-0.12	-0.26	0.00	0.03	-0.13	-0.40	0.02	0.04	-0.11	-0.57	0.27	0.07	-0.11	-0.33	0.19	0.05
270	-0.11	-0.23	0.01	0.03	-0.12	-0.27	0.00	0.03	-0.13	-0.30	0.01	0.04	-0.17	-0.47	0.08	0.07	-0.02	-0.27	0.23	0.05
280	-0.11	-0.23	0.02	0.03	-0.11	-0.25	-0.01	0.03	-0.12	-0.30	0.00	0.04	-0.17	-0.52	0.17	0.06	0.01	-0.17	0.23	0.05
290	-0.11	-0.26	0.03	0.03	-0.13	-0.30	0.01	0.03	-0.13	-0.30	0.00	0.04	-0.14	-0.55	0.30	0.08	-0.01	-0.25	0.21	0.05
300	-0.10	-0.25	0.04	0.03	-0.12	-0.27	0.02	0.03	-0.14	-0.31	-0.01	0.04	-0.11	-0.37	0.19	0.06	-0.02	-0.21	0.17	0.04
310	-0.08	-0.20	0.05	0.03	-0.09	-0.24	0.05	0.03	-0.12	-0.33	0.06	0.04	-0.10	-0.33	0.15	0.05	-0.03	-0.23	0.15	0.04
320	-0.05	-0.17	0.10	0.03	-0.07	-0.22	0.04	0.03	-0.09	-0.30	0.10	0.04	-0.07	-0.29	0.21	0.05	-0.01	-0.24	0.18	0.04
330	-0.01	-0.17	0.15	0.04	-0.06	-0.23	0.08	0.03	-0.09	-0.34	0.08	0.05	-0.04	-0.31	0.34	0.05	0.01	-0.26	0.29	0.04
340	0.01	-0.15	0.16	0.03	-0.02	-0.16	0.10	0.03	-0.04	-0.32	0.15	0.05	0.01	-0.28	0.44	0.06	0.01	-0.19	0.18	0.04
350	0.02	-0.13	0.16	0.03	0.00	-0.15	0.16	0.04	0.01	-0.17	0.17	0.04	0.04	-0.21	0.37	0.05	0.03	-0.16	0.25	0.04
360	0.05	-0.07	0.22	0.03	0.04	-0.09	0.23	0.03	0.05	-0.17	0.18	0.04	0.07	-0.19	0.38	0.05	0.03	-0.18	0.26	0.04

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # G 8 MEAN	MIN	MAX	RMS	TAP # G 9 MEAN	MIN	MAX	RMS	TAP # G 10 MEAN	MIN	MAX	RMS	TAP # G 11 MEAN	MIN	MAX	RMS	TAP # G 12 MEAN	MIN	MAX	RMS
10	0.04	-0.12	0.19	0.03	0.05	-0.17	0.21	0.03	0.05	-0.08	0.19	0.03	0.04	-0.11	0.23	0.03	0.09	-0.09	0.39	0.05
20	0.03	-0.13	0.17	0.03	0.05	-0.12	0.19	0.03	0.05	-0.10	0.18	0.03	0.04	-0.14	0.16	0.03	0.12	-0.15	0.44	0.06
30	0.02	-0.14	0.14	0.03	0.03	-0.12	0.16	0.03	0.02	-0.16	0.17	0.03	0.02	-0.15	0.17	0.03	0.06	-0.11	0.35	0.05
40	0.00	-0.12	0.14	0.03	0.01	-0.10	0.15	0.03	0.01	-0.13	0.15	0.03	0.00	-0.14	0.14	0.03	0.03	-0.18	0.32	0.05
50	-0.02	-0.21	0.11	0.04	0.00	-0.18	0.15	0.03	0.00	-0.14	0.13	0.03	-0.03	-0.17	0.11	0.03	0.04	-0.37	0.51	0.08
60	-0.04	-0.20	0.11	0.03	-0.04	-0.21	0.12	0.03	-0.03	-0.15	0.09	0.03	-0.06	-0.20	0.07	0.03	0.01	-0.34	0.30	0.06
70	-0.08	-0.24	0.06	0.03	-0.08	-0.24	0.09	0.04	-0.08	-0.22	0.04	0.03	-0.09	-0.22	0.04	0.03	-0.04	-0.37	0.19	0.05
80	-0.10	-0.23	0.07	0.04	-0.13	-0.38	0.03	0.04	-0.09	-0.26	0.10	0.04	-0.11	-0.26	0.06	0.03	-0.08	-0.36	0.12	0.05
90	-0.12	-0.27	0.01	0.04	-0.13	-0.43	0.02	0.04	-0.11	-0.30	0.05	0.04	-0.13	-0.31	0.02	0.03	-0.12	-0.43	0.10	0.05
100	-0.12	-0.30	0.03	0.04	-0.15	-0.42	0.00	0.04	-0.11	-0.40	0.19	0.04	-0.15	-0.30	0.01	0.04	-0.09	-0.32	0.10	0.05
110	-0.12	-0.34	0.03	0.04	-0.15	-0.44	0.02	0.05	-0.10	-0.42	0.10	0.04	-0.13	-0.37	0.09	0.04	-0.09	-0.25	0.05	0.04
120	-0.11	-0.28	0.02	0.03	-0.13	-0.40	0.03	0.04	-0.11	-0.41	0.09	0.04	-0.13	-0.33	0.06	0.04	-0.11	-0.28	0.01	0.03
130	-0.10	-0.27	0.11	0.03	-0.13	-0.29	0.08	0.04	-0.13	-0.33	0.12	0.03	-0.13	-0.27	0.02	0.03	-0.14	-0.27	0.01	0.03
140	-0.17	-0.34	0.02	0.04	-0.19	-0.39	0.14	0.05	-0.19	-0.43	0.15	0.05	-0.19	-0.40	0.06	0.04	-0.19	-0.37	-0.04	0.04
150	-0.12	-0.30	0.05	0.04	-0.14	-0.42	0.18	0.05	-0.16	-0.40	0.38	0.05	-0.14	-0.32	0.18	0.05	-0.15	-0.36	0.01	0.04
160	-0.11	-0.32	0.10	0.04	-0.14	-0.33	0.10	0.04	-0.14	-0.41	0.13	0.05	-0.15	-0.35	0.11	0.04	-0.16	-0.37	0.02	0.04
170	-0.12	-0.35	0.07	0.04	-0.14	-0.35	0.08	0.04	-0.15	-0.44	0.19	0.04	-0.13	-0.38	0.07	0.04	-0.15	-0.37	-0.03	0.04
180	-0.10	-0.25	0.07	0.04	-0.11	-0.26	0.09	0.04	-0.13	-0.33	0.10	0.04	-0.13	-0.34	0.10	0.04	-0.13	-0.33	0.00	0.03
190	-0.10	-0.26	0.10	0.04	-0.11	-0.29	0.14	0.04	-0.14	-0.33	0.10	0.04	-0.11	-0.46	0.12	0.04	-0.13	-0.29	0.00	0.03
200	-0.12	-0.42	0.13	0.05	-0.13	-0.42	0.13	0.06	-0.13	-0.40	0.17	0.07	-0.13	-0.47	0.38	0.06	-0.12	-0.27	0.05	0.03
210	-0.15	-0.38	0.06	0.04	-0.18	-0.50	0.04	0.05	-0.14	-0.47	0.38	0.06	-0.15	-0.52	0.28	0.06	-0.13	-0.25	-0.01	0.03
220	-0.15	-0.38	0.04	0.04	-0.17	-0.40	0.02	0.04	-0.14	-0.33	0.15	0.04	-0.14	-0.45	0.21	0.05	-0.12	-0.26	0.01	0.03
230	-0.16	-0.36	0.00	0.04	-0.14	-0.29	0.00	0.03	-0.16	-0.41	0.04	0.03	-0.14	-0.29	0.04	0.04	-0.12	-0.26	0.01	0.03
240	-0.12	-0.26	0.04	0.03	-0.13	-0.27	0.01	0.03	-0.12	-0.34	0.00	0.04	-0.14	-0.24	0.02	0.03	-0.11	-0.25	0.02	0.03
250	-0.10	-0.26	0.25	0.05	-0.11	-0.30	0.14	0.04	-0.11	-0.25	0.03	0.03	-0.11	-0.32	0.06	0.04	-0.10	-0.23	0.06	0.03
260	-0.06	-0.34	0.46	0.07	-0.09	-0.34	0.24	0.05	-0.10	-0.27	0.07	0.04	-0.09	-0.26	0.16	0.04	-0.10	-0.25	0.03	0.03
270	0.13	-0.22	0.69	0.10	0.02	-0.19	0.32	0.06	-0.05	-0.32	0.32	0.05	-0.02	-0.28	0.31	0.06	-0.11	-0.24	0.02	0.03
280	0.13	-0.19	0.79	0.10	0.02	-0.19	0.31	0.05	0.00	-0.20	0.30	0.05	0.02	-0.22	0.33	0.05	-0.12	-0.27	0.04	0.03
290	0.07	-0.18	0.58	0.08	0.06	-0.14	0.42	0.05	0.05	-0.16	0.31	0.05	0.08	-0.13	0.40	0.06	-0.17	-0.35	0.03	0.04
300	0.01	-0.18	0.31	0.05	0.06	-0.14	0.36	0.05	0.06	-0.12	0.28	0.05	0.08	-0.15	0.35	0.06	-0.17	-0.35	0.02	0.04
310	0.01	-0.21	0.24	0.04	0.06	-0.11	0.28	0.04	0.06	-0.21	0.32	0.04	0.08	-0.13	0.33	0.05	-0.15	-0.36	0.13	0.05
320	0.02	-0.11	0.24	0.04	0.05	-0.13	0.30	0.04	0.06	-0.09	0.26	0.04	0.06	-0.10	0.32	0.04	-0.13	-0.39	0.13	0.05
330	0.02	-0.15	0.18	0.04	0.05	-0.16	0.27	0.04	0.04	-0.12	0.25	0.04	0.07	-0.12	0.30	0.04	-0.09	-0.36	0.25	0.06
340	0.03	-0.13	0.22	0.04	0.04	-0.16	0.27	0.04	0.07	-0.07	0.25	0.04	0.06	-0.11	0.25	0.04	-0.04	-0.20	0.30	0.06
350	0.03	-0.18	0.25	0.04	0.04	-0.18	0.21	0.04	0.04	-0.15	0.19	0.04	0.04	-0.11	0.25	0.04	0.00	-0.21	0.28	0.05
360	0.03	-0.13	0.25	0.03	0.05	-0.12	0.22	0.04	0.05	-0.10	0.24	0.03	0.04	-0.13	0.24	0.04	0.06	-0.20	0.49	0.05

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # G 13 MEAN	MIN	MAX	RMS	TAP # G 14 MEAN	MIN	MAX	RMS	TAP # G 15 MEAN	MIN	MAX	RMS	TAP # G 16 MEAN	MIN	MAX	RMS	TAP # G 17 MEAN	MIN	MAX	RMS
10	0.05	-0.17	0.29	0.04	0.06	-0.16	0.30	0.04	-0.01	-0.29	0.23	0.05	0.01	-0.24	0.20	0.04	-0.03	-0.20	0.19	0.04
20	0.04	-0.11	0.24	0.04	0.05	-0.11	0.26	0.04	0.00	-0.26	0.20	0.05	0.02	-0.17	0.19	0.04	0.00	-0.23	0.48	0.05
30	0.01	-0.15	0.16	0.03	0.03	-0.11	0.24	0.04	-0.01	-0.22	0.16	0.04	0.02	-0.09	0.18	0.03	0.01	-0.16	0.42	0.04
40	-0.01	-0.16	0.16	0.03	0.01	-0.17	0.16	0.03	0.00	-0.17	0.14	0.03	0.01	-0.19	0.21	0.03	-0.02	-0.30	0.22	0.06
50	-0.02	-0.16	0.11	0.03	0.01	-0.14	0.19	0.03	0.01	-0.14	0.13	0.03	-0.01	-0.18	0.12	0.04	-0.05	-0.31	0.11	0.05
60	-0.05	-0.18	0.07	0.03	-0.02	-0.19	0.12	0.03	-0.01	-0.15	0.14	0.03	-0.01	-0.19	0.16	0.04	-0.05	-0.32	0.09	0.04
70	-0.08	-0.21	0.04	0.03	-0.06	-0.27	0.07	0.03	-0.06	-0.22	0.07	0.03	-0.04	-0.20	0.21	0.04	-0.08	-0.27	0.06	0.04
80	-0.11	-0.29	0.06	0.04	-0.08	-0.25	0.09	0.04	-0.07	-0.23	0.08	0.03	-0.05	-0.26	0.16	0.04	-0.11	-0.33	0.10	0.05
90	-0.15	-0.31	0.02	0.04	-0.11	-0.31	0.04	0.04	-0.09	-0.26	0.07	0.04	-0.10	-0.39	0.11	0.05	-0.19	-0.64	0.05	0.07
100	-0.14	-0.35	0.02	0.04	-0.12	-0.39	0.07	0.04	-0.10	-0.36	0.07	0.04	-0.13	-0.40	0.06	0.05	-0.25	-0.57	0.02	0.07
110	-0.12	-0.31	0.04	0.04	-0.12	-0.30	0.06	0.04	-0.10	-0.24	0.09	0.04	-0.14	-0.39	0.06	0.04	-0.24	-0.47	0.00	0.05
120	-0.12	-0.27	0.01	0.03	-0.12	-0.30	0.03	0.03	-0.12	-0.26	0.02	0.03	-0.16	-0.33	-0.02	0.04	-0.23	-0.46	-0.07	0.04
130	-0.14	-0.27	0.00	0.03	-0.14	-0.27	0.01	0.03	-0.14	-0.32	0.01	0.04	-0.18	-0.37	0.03	0.04	-0.24	-0.49	-0.07	0.05
140	-0.20	-0.40	-0.06	0.04	-0.20	-0.37	-0.04	0.04	-0.20	-0.40	-0.02	0.04	-0.24	-0.54	-0.06	0.05	-0.33	-0.83	-0.08	0.07
150	-0.16	-0.33	-0.01	0.04	-0.17	-0.39	0.01	0.04	-0.15	-0.36	0.03	0.04	-0.20	-0.42	0.04	0.05	-0.26	-0.83	0.00	0.08
160	-0.15	-0.39	0.07	0.05	-0.16	-0.39	0.00	0.04	-0.15	-0.31	0.02	0.04	-0.18	-0.44	0.03	0.04	-0.23	-0.66	0.03	0.07
170	-0.15	-0.34	0.03	0.04	-0.15	-0.31	-0.02	0.03	-0.14	-0.40	0.02	0.04	-0.16	-0.39	0.02	0.04	-0.23	-0.48	-0.01	0.05
180	-0.14	-0.33	0.04	0.04	-0.13	-0.27	0.00	0.03	-0.13	-0.28	0.00	0.03	-0.15	-0.42	0.00	0.04	-0.20	-0.47	-0.02	0.05
190	-0.13	-0.28	0.03	0.03	-0.13	-0.31	0.01	0.03	-0.13	-0.33	0.01	0.03	-0.14	-0.36	0.02	0.04	-0.19	-0.36	-0.03	0.04
200	-0.14	-0.48	0.06	0.04	-0.15	-0.38	0.02	0.04	-0.16	-0.40	0.03	0.05	-0.16	-0.39	0.06	0.04	-0.20	-0.44	0.02	0.05
210	-0.19	-0.46	0.01	0.05	-0.17	-0.52	0.01	0.05	-0.17	-0.52	0.04	0.05	-0.20	-0.60	-0.01	0.05	-0.24	-0.59	0.03	0.06
220	-0.19	-0.45	-0.05	0.05	-0.19	-0.46	-0.03	0.04	-0.20	-0.56	-0.03	0.05	-0.20	-0.40	-0.04	0.04	-0.24	-0.59	-0.03	0.05
230	-0.15	-0.28	0.00	0.03	-0.15	-0.32	0.01	0.03	-0.17	-0.40	-0.01	0.04	-0.18	-0.35	-0.03	0.04	-0.17	-0.38	0.00	0.04
240	-0.12	-0.27	0.03	0.03	-0.13	-0.25	-0.02	0.03	-0.15	-0.39	-0.02	0.03	-0.15	-0.32	-0.03	0.03	-0.15	-0.37	0.01	0.03
250	-0.12	-0.25	0.05	0.04	-0.10	-0.25	0.09	0.04	-0.13	-0.29	0.11	0.03	-0.11	-0.24	0.02	0.03	-0.13	-0.31	0.00	0.03
260	-0.10	-0.30	0.24	0.05	-0.08	-0.32	0.22	0.04	-0.12	-0.29	0.16	0.04	-0.11	-0.28	0.06	0.03	-0.11	-0.26	0.02	0.03
270	0.02	-0.24	0.70	0.07	0.00	-0.21	0.43	0.07	-0.07	-0.35	0.28	0.07	-0.09	-0.30	0.12	0.04	-0.12	-0.33	0.02	0.04
280	0.07	-0.22	0.44	0.07	0.06	-0.16	0.34	0.06	0.07	-0.27	0.58	0.08	-0.01	-0.30	0.28	0.06	-0.16	-0.59	0.04	0.05
290	0.08	-0.11	0.55	0.06	0.07	-0.17	0.35	0.06	0.07	-0.14	0.47	0.06	0.05	-0.27	0.37	0.06	-0.17	-0.53	0.15	0.06
300	0.10	-0.14	0.44	0.06	0.06	-0.17	0.38	0.05	0.09	-0.15	0.44	0.06	0.00	-0.33	0.27	0.06	-0.19	-0.65	0.10	0.06
310	0.10	-0.13	0.36	0.05	0.08	-0.13	0.33	0.05	0.09	-0.18	0.43	0.06	-0.02	-0.35	0.30	0.06	-0.18	-0.43	0.14	0.05
320	0.10	-0.08	0.43	0.05	0.07	-0.14	0.38	0.05	0.09	-0.14	0.48	0.06	0.00	-0.26	0.37	0.06	-0.17	-0.38	0.19	0.06
330	0.07	-0.16	0.32	0.05	0.06	-0.14	0.35	0.05	0.09	-0.20	0.42	0.06	0.00	-0.23	0.28	0.04	-0.13	-0.35	0.21	0.06
340	0.05	-0.13	0.35	0.05	0.08	-0.16	0.32	0.05	0.08	-0.26	0.49	0.07	-0.01	-0.22	0.18	0.04	-0.13	-0.39	0.30	0.06
350	0.05	-0.15	0.33	0.05	0.06	-0.20	0.51	0.05	0.02	-0.30	0.29	0.06	0.00	-0.21	0.22	0.04	-0.11	-0.34	0.23	0.05
360	0.07	-0.28	0.27	0.04	0.07	-0.13	0.39	0.05	0.01	-0.26	0.26	0.05	0.03	-0.16	0.26	0.04	-0.05	-0.27	0.27	0.04

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # H 1 MEAN	MIN	MAX	RMS	TAP # H 2 MEAN	MIN	MAX	RMS	TAP # H 3 MEAN	MIN	MAX	RMS	TAP # H 4 MEAN	MIN	MAX	RMS	TAP # H 5 MEAN	MIN	MAX	RMS
10	0.03	-0.11	0.19	0.03	0.05	-0.08	0.17	0.03	0.05	-0.12	0.18	0.03	0.04	-0.09	0.18	0.03	0.08	-0.05	0.19	0.03
20	0.03	-0.09	0.16	0.03	0.04	-0.09	0.15	0.03	0.04	-0.09	0.17	0.03	0.04	-0.09	0.17	0.03	0.08	-0.04	0.25	0.03
30	0.01	-0.14	0.14	0.03	0.02	-0.11	0.15	0.03	0.02	-0.11	0.16	0.03	0.02	-0.10	0.17	0.03	0.05	-0.07	0.20	0.03
40	0.00	-0.11	0.13	0.03	0.01	-0.11	0.13	0.03	0.01	-0.13	0.15	0.03	0.00	-0.15	0.12	0.03	0.05	-0.09	0.19	0.03
50	0.00	-0.15	0.15	0.04	0.01	-0.12	0.16	0.03	0.00	-0.14	0.14	0.03	-0.02	-0.14	0.09	0.03	0.10	-0.04	0.33	0.04
60	-0.02	-0.15	0.12	0.03	-0.02	-0.14	0.13	0.03	-0.04	-0.17	0.11	0.03	-0.05	-0.20	0.09	0.03	0.08	-0.05	0.25	0.04
70	-0.05	-0.18	0.12	0.04	-0.05	-0.19	0.08	0.03	-0.07	-0.24	0.06	0.03	-0.08	-0.20	0.05	0.03	0.03	-0.12	0.19	0.03
80	-0.07	-0.20	0.07	0.03	-0.09	-0.24	0.06	0.03	-0.09	-0.26	0.07	0.03	-0.11	-0.26	0.06	0.03	0.04	-0.15	0.18	0.04
90	-0.09	-0.25	0.05	0.03	-0.10	-0.29	0.04	0.03	-0.11	-0.27	0.07	0.04	-0.13	-0.27	0.01	0.03	0.03	-0.16	0.23	0.04
100	-0.10	-0.28	0.05	0.04	-0.10	-0.23	0.04	0.03	-0.13	-0.28	0.04	0.03	-0.14	-0.31	0.02	0.03	-0.02	-0.19	0.18	0.04
110	-0.09	-0.25	0.05	0.04	-0.10	-0.23	0.04	0.03	-0.12	-0.31	0.02	0.03	-0.12	-0.28	0.06	0.04	-0.05	-0.23	0.15	0.04
120	-0.09	-0.26	0.06	0.03	-0.10	-0.22	0.04	0.03	-0.11	-0.25	0.04	0.03	-0.12	-0.33	0.02	0.03	-0.11	-0.24	0.05	0.03
130	-0.11	-0.25	0.01	0.03	-0.11	-0.24	0.02	0.03	-0.11	-0.24	0.04	0.03	-0.13	-0.23	0.04	0.03	-0.13	-0.27	-0.01	0.03
140	-0.16	-0.35	-0.02	0.04	-0.16	-0.36	0.00	0.04	-0.18	-0.37	0.02	0.04	-0.19	-0.35	0.10	0.04	-0.19	-0.35	-0.06	0.03
150	-0.12	-0.30	0.06	0.04	-0.11	-0.27	0.04	0.04	-0.13	-0.27	0.04	0.04	-0.13	-0.30	0.23	0.05	-0.15	-0.32	-0.01	0.04
160	-0.11	-0.26	0.11	0.04	-0.11	-0.28	0.04	0.04	-0.12	-0.26	0.05	0.03	-0.14	-0.31	0.11	0.04	-0.14	-0.32	0.01	0.04
170	-0.10	-0.24	0.09	0.04	-0.09	-0.25	0.15	0.04	-0.13	-0.28	0.05	0.03	-0.14	-0.30	0.11	0.04	-0.13	-0.28	-0.01	0.03
180	-0.10	-0.24	0.09	0.04	-0.09	-0.22	0.05	0.03	-0.10	-0.25	0.06	0.03	-0.14	-0.34	0.05	0.04	-0.12	-0.25	0.01	0.03
190	-0.08	-0.21	0.14	0.04	-0.09	-0.26	0.07	0.04	-0.08	-0.25	0.16	0.04	-0.12	-0.26	0.14	0.04	-0.12	-0.24	0.02	0.03
200	-0.09	-0.32	0.14	0.04	-0.09	-0.31	0.12	0.04	-0.10	-0.28	0.15	0.05	-0.11	-0.36	0.40	0.06	-0.13	-0.28	0.05	0.03
210	-0.14	-0.36	0.09	0.04	-0.13	-0.33	0.05	0.04	-0.14	-0.31	0.06	0.04	-0.12	-0.39	0.31	0.06	-0.14	-0.34	0.05	0.04
220	-0.14	-0.30	0.03	0.04	-0.16	-0.33	-0.02	0.04	-0.15	-0.31	0.05	0.04	-0.13	-0.33	0.17	0.05	-0.12	-0.29	0.06	0.04
230	-0.14	-0.27	-0.02	0.03	-0.13	-0.25	0.01	0.03	-0.14	-0.29	-0.01	0.03	-0.14	-0.30	0.00	0.03	-0.12	-0.26	0.03	0.03
240	-0.13	-0.27	0.05	0.03	-0.13	-0.27	0.04	0.03	-0.13	-0.25	0.03	0.03	-0.12	-0.29	0.06	0.03	-0.11	-0.22	-0.01	0.03
250	-0.11	-0.33	0.15	0.05	-0.10	-0.30	0.16	0.05	-0.11	-0.26	0.18	0.04	-0.10	-0.25	0.05	0.03	-0.10	-0.24	0.03	0.03
260	-0.07	-0.31	0.30	0.05	-0.05	-0.27	0.44	0.06	-0.07	-0.24	0.32	0.05	-0.09	-0.24	0.13	0.04	-0.09	-0.24	0.05	0.03
270	0.03	-0.19	0.33	0.06	0.08	-0.16	0.54	0.08	0.07	-0.19	0.43	0.07	-0.02	-0.25	0.26	0.05	-0.02	-0.21	0.18	0.04
280	0.06	-0.12	0.41	0.05	0.11	-0.12	0.49	0.07	0.07	-0.08	0.41	0.06	0.02	-0.17	0.31	0.05	-0.02	-0.16	0.16	0.04
290	0.02	-0.15	0.31	0.05	0.03	-0.15	0.41	0.06	0.02	-0.13	0.31	0.05	0.07	-0.08	0.35	0.05	-0.01	-0.13	0.17	0.03
300	0.00	-0.19	0.21	0.04	0.00	-0.16	0.20	0.04	0.02	-0.14	0.24	0.04	0.06	-0.14	0.47	0.06	-0.01	-0.13	0.13	0.03
310	0.01	-0.16	0.16	0.04	0.01	-0.16	0.16	0.04	0.03	-0.14	0.26	0.04	0.07	-0.12	0.50	0.05	0.00	-0.14	0.14	0.03
320	0.00	-0.14	0.16	0.03	0.02	-0.16	0.19	0.03	0.03	-0.12	0.23	0.04	0.08	-0.09	0.39	0.04	0.01	-0.14	0.16	0.03
330	0.02	-0.15	0.21	0.04	0.01	-0.14	0.19	0.04	0.03	-0.16	0.21	0.04	0.06	-0.09	0.31	0.04	0.01	-0.12	0.15	0.03
340	0.02	-0.25	0.18	0.03	0.03	-0.12	0.23	0.03	0.03	-0.14	0.18	0.03	0.04	-0.14	0.26	0.04	0.03	-0.11	0.19	0.03
350	0.01	-0.15	0.21	0.04	0.03	-0.11	0.21	0.04	0.04	-0.12	0.23	0.04	0.05	-0.10	0.23	0.04	0.02	-0.11	0.17	0.03
360	0.04	-0.11	0.26	0.03	0.04	-0.08	0.24	0.03	0.05	-0.11	0.26	0.03	0.06	-0.08	0.22	0.03	0.06	-0.06	0.21	0.03

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # H 6 MEAN	MIN	MAX	RMS	TAP # H 7 MEAN	MIN	MAX	RMS	TAP # H 8 MEAN	MIN	MAX	RMS	TAP # H 9 MEAN	MIN	MAX	RMS	TAP # H 10 MEAN	MIN	MAX	RMS
10	0.06	-0.13	0.31	0.04	0.03	-0.13	0.25	0.04	0.03	-0.12	0.28	0.04	-0.05	-0.29	0.13	0.04	-0.13	-0.40	0.09	0.05
20	0.04	-0.10	0.20	0.03	0.03	-0.10	0.32	0.04	0.05	-0.09	0.27	0.04	-0.03	-0.29	0.14	0.05	-0.11	-0.39	0.03	0.05
30	0.02	-0.13	0.17	0.03	0.03	-0.11	0.25	0.03	0.04	-0.10	0.26	0.04	-0.02	-0.23	0.19	0.04	-0.09	-0.42	0.09	0.05
40	0.00	-0.14	0.11	0.03	0.03	-0.15	0.22	0.03	0.03	-0.10	0.30	0.05	-0.03	-0.30	0.18	0.04	-0.09	-0.60	0.16	0.05
50	0.00	-0.15	0.13	0.03	0.02	-0.13	0.19	0.04	-0.03	-0.22	0.18	0.04	-0.03	-0.31	0.24	0.06	-0.12	-0.39	0.34	0.06
60	-0.03	-0.17	0.10	0.03	0.00	-0.15	0.13	0.03	-0.03	-0.22	0.10	0.04	0.03	-0.18	0.27	0.04	-0.03	-0.32	0.35	0.06
70	-0.07	-0.21	0.04	0.03	-0.03	-0.17	0.11	0.03	-0.05	-0.23	0.08	0.03	0.04	-0.11	0.23	0.04	0.01	-0.23	0.19	0.04
80	-0.08	-0.24	0.07	0.03	-0.04	-0.19	0.18	0.04	-0.08	-0.33	0.21	0.04	0.04	-0.14	0.27	0.04	0.02	-0.17	0.21	0.04
90	-0.10	-0.25	0.02	0.03	-0.06	-0.23	0.12	0.04	-0.13	-0.45	0.10	0.05	0.10	-0.10	0.49	0.07	0.06	-0.15	0.31	0.05
100	-0.12	-0.26	0.01	0.04	-0.09	-0.26	0.06	0.04	-0.17	-0.40	0.05	0.05	0.08	-0.10	0.38	0.06	0.05	-0.14	0.29	0.04
110	-0.11	-0.30	0.03	0.04	-0.10	-0.29	0.06	0.04	-0.16	-0.37	0.04	0.04	0.01	-0.17	0.24	0.04	0.03	-0.16	0.21	0.04
120	-0.12	-0.26	0.03	0.03	-0.11	-0.26	0.06	0.03	-0.20	-0.40	-0.01	0.04	-0.03	-0.19	0.16	0.04	-0.02	-0.18	0.17	0.04
130	-0.14	-0.26	-0.01	0.03	-0.14	-0.33	-0.01	0.04	-0.19	-0.39	-0.01	0.04	-0.02	-0.24	0.20	0.05	0.02	-0.16	0.29	0.05
140	-0.19	-0.32	-0.07	0.03	-0.19	-0.37	-0.01	0.04	-0.26	-0.53	-0.02	0.05	0.00	-0.26	0.47	0.06	0.06	-0.12	0.43	0.06
150	-0.16	-0.36	-0.01	0.04	-0.16	-0.36	0.03	0.04	-0.22	-0.44	-0.04	0.05	0.00	-0.19	0.45	0.07	0.09	-0.13	0.46	0.07
160	-0.14	-0.31	0.03	0.03	-0.15	-0.31	0.03	0.04	-0.18	-0.47	0.02	0.05	-0.01	-0.22	0.41	0.06	0.08	-0.14	0.42	0.07
170	-0.14	-0.25	0.01	0.03	-0.15	-0.32	0.03	0.04	-0.18	-0.42	0.06	0.04	-0.01	-0.23	0.28	0.05	0.10	-0.12	0.54	0.07
180	-0.14	-0.26	0.00	0.03	-0.14	-0.29	-0.01	0.03	-0.14	-0.31	0.01	0.04	-0.03	-0.17	0.23	0.04	0.06	-0.12	0.33	0.06
190	-0.12	-0.26	0.01	0.03	-0.15	-0.33	-0.01	0.03	-0.17	-0.32	-0.01	0.04	-0.08	-0.23	0.13	0.04	-0.06	-0.22	0.24	0.04
200	-0.13	-0.26	0.08	0.04	-0.15	-0.35	0.04	0.04	-0.16	-0.42	0.03	0.04	-0.08	-0.28	0.14	0.04	-0.06	-0.22	0.15	0.04
210	-0.15	-0.40	0.03	0.04	-0.18	-0.37	0.00	0.04	-0.20	-0.40	0.02	0.05	-0.08	-0.32	0.19	0.06	-0.08	-0.27	0.24	0.05
220	-0.20	-0.45	-0.01	0.05	-0.18	-0.40	-0.03	0.04	-0.20	-0.38	0.00	0.04	-0.10	-0.27	0.18	0.05	-0.10	-0.24	0.11	0.04
230	-0.14	-0.32	0.03	0.04	-0.17	-0.38	0.00	0.04	-0.15	-0.30	-0.01	0.03	-0.13	-0.28	0.04	0.04	-0.14	-0.30	0.02	0.03
240	-0.12	-0.25	0.01	0.03	-0.14	-0.26	-0.02	0.03	-0.14	-0.27	0.00	0.03	-0.14	-0.28	0.02	0.03	-0.12	-0.25	0.01	0.03
250	-0.11	-0.22	0.03	0.03	-0.12	-0.25	0.03	0.03	-0.12	-0.27	0.00	0.03	-0.12	-0.27	0.09	0.03	-0.12	-0.26	0.03	0.03
260	-0.08	-0.27	0.21	0.04	-0.11	-0.25	0.05	0.03	-0.10	-0.26	0.05	0.03	-0.10	-0.22	0.01	0.03	-0.12	-0.22	0.03	0.03
270	0.02	-0.20	0.47	0.06	-0.07	-0.25	0.18	0.04	-0.08	-0.23	0.10	0.04	-0.17	-0.52	0.01	0.05	-0.11	-0.28	0.02	0.03
280	0.06	-0.12	0.39	0.05	0.03	-0.16	0.30	0.05	-0.02	-0.19	0.26	0.05	-0.35	-1.02	0.01	0.11	-0.16	-0.43	0.01	0.04
290	0.07	-0.12	0.34	0.06	0.06	-0.11	0.35	0.05	0.00	-0.18	0.36	0.05	-0.42	-1.05	-0.08	0.10	-0.20	-0.44	0.00	0.05
300	0.10	-0.12	0.41	0.06	0.04	-0.12	0.34	0.04	-0.03	-0.18	0.28	0.05	-0.43	-0.99	-0.10	0.09	-0.22	-0.45	-0.03	0.04
310	0.08	-0.12	0.36	0.05	0.04	-0.12	0.21	0.04	-0.04	-0.19	0.25	0.04	-0.41	-0.97	-0.12	0.08	-0.22	-0.48	-0.05	0.05
320	0.07	-0.10	0.35	0.05	0.04	-0.16	0.28	0.05	-0.03	-0.20	0.29	0.05	-0.40	-1.11	-0.12	0.08	-0.21	-0.50	-0.04	0.05
330	0.06	-0.12	0.32	0.05	0.04	-0.14	0.33	0.05	-0.02	-0.18	0.43	0.05	-0.38	-0.83	-0.06	0.08	-0.21	-0.46	-0.03	0.05
340	0.07	-0.09	0.31	0.04	0.04	-0.11	0.32	0.05	0.01	-0.17	0.27	0.05	-0.32	-0.69	0.00	0.08	-0.19	-0.45	0.02	0.05
350	0.06	-0.14	0.35	0.05	0.02	-0.14	0.24	0.04	-0.01	-0.17	0.24	0.04	-0.25	-0.71	-0.03	0.07	-0.18	-0.51	0.02	0.06
360	0.07	-0.08	0.37	0.04	0.04	-0.19	0.20	0.04	0.02	-0.14	0.21	0.04	-0.11	-0.51	0.12	0.06	-0.13	-0.38	0.09	0.05

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # H 11 MEAN	MIN	MAX	RMS	TAP # F 0 MEAN	MIN	MAX	RMS	TAP # R 1 MEAN	MIN	MAX	RMS	TAP # R 2 MEAN	MIN	MAX	RMS	TAP # R 3 MEAN	MIN	MAX	RMS
10	-0.14	-0.39	0.03	0.05	0.00	0.00	0.00	0.00	-0.03	-0.33	0.33	0.07	0.02	-0.29	0.42	0.08	0.06	-0.25	0.58	0.10
20	-0.12	-0.52	0.05	0.05	0.00	0.00	0.00	0.00	-0.02	-0.32	0.32	0.07	0.02	-0.33	0.37	0.08	0.04	-0.36	0.49	0.09
30	-0.10	-0.39	0.06	0.05	0.00	0.00	0.00	0.00	0.01	-0.28	0.32	0.07	0.00	-0.28	0.35	0.07	0.03	-0.43	0.40	0.09
40	-0.10	-0.37	0.07	0.05	0.00	0.00	0.00	0.00	0.03	-0.27	0.35	0.06	0.01	-0.25	0.34	0.06	-0.02	-0.44	0.35	0.09
50	-0.15	-0.43	0.10	0.05	0.00	0.00	0.00	0.00	0.02	-0.25	0.22	0.05	-0.06	-0.32	0.14	0.05	-0.21	-0.62	0.23	0.10
60	-0.07	-0.38	0.11	0.05	0.00	0.00	0.00	0.00	-0.03	-0.36	0.21	0.06	-0.11	-0.54	0.18	0.08	-0.30	-0.63	0.05	0.08
70	0.01	-0.25	0.17	0.05	0.00	0.00	0.00	0.00	-0.10	-0.46	0.29	0.08	-0.20	-0.84	0.20	0.09	-0.37	-0.81	0.01	0.09
80	0.04	-0.17	0.23	0.04	0.00	0.00	0.00	0.00	-0.19	-0.74	0.25	0.10	-0.26	-0.61	0.19	0.08	-0.31	-0.59	-0.06	0.07
90	0.08	-0.11	0.26	0.04	0.00	0.00	0.00	0.00	-0.25	-0.78	0.15	0.11	-0.29	-0.76	0.05	0.09	-0.32	-0.62	-0.02	0.07
100	0.06	-0.13	0.33	0.05	0.00	0.00	0.00	0.00	-0.24	-0.93	0.21	0.10	-0.28	-0.80	0.24	0.09	-0.30	-0.66	-0.05	0.07
110	0.05	-0.15	0.28	0.04	0.00	0.00	0.00	0.00	-0.22	-0.65	0.22	0.08	-0.24	-0.64	0.19	0.09	-0.29	-0.67	0.18	0.08
120	0.02	-0.16	0.24	0.04	0.00	0.00	0.00	0.00	-0.20	-0.71	0.14	0.07	-0.22	-0.74	0.22	0.08	-0.26	-0.64	0.17	0.08
130	0.03	-0.15	0.28	0.05	0.00	0.00	0.00	0.00	-0.23	-0.60	0.05	0.05	-0.24	-0.55	-0.04	0.06	-0.25	-0.54	0.05	0.06
140	0.08	-0.12	0.40	0.06	0.00	0.00	0.00	0.00	-0.33	-0.74	-0.08	0.06	-0.33	-0.77	-0.07	0.06	-0.31	-0.71	-0.01	0.07
150	0.08	-0.14	0.40	0.06	0.00	0.00	0.00	0.00	-0.27	-0.60	-0.07	0.05	-0.28	-0.66	-0.07	0.05	-0.27	-0.62	-0.08	0.06
160	0.09	-0.14	0.50	0.07	0.00	0.00	0.00	0.00	-0.28	-0.70	-0.05	0.06	-0.28	-0.53	-0.10	0.05	-0.28	-0.61	-0.10	0.05
170	0.09	-0.14	0.44	0.07	0.00	0.00	0.00	0.00	-0.28	-0.78	-0.09	0.06	-0.28	-0.60	-0.10	0.05	-0.26	-0.58	-0.09	0.05
180	0.06	-0.16	0.55	0.06	0.00	0.00	0.00	0.00	-0.24	-0.66	0.05	0.07	-0.25	-0.61	0.01	0.06	-0.24	-0.52	0.00	0.06
190	-0.01	-0.19	0.24	0.04	0.00	0.00	0.00	0.00	-0.19	-0.62	0.02	0.05	-0.19	-0.64	0.04	0.05	-0.18	-0.45	0.05	0.05
200	-0.08	-0.22	0.18	0.04	0.00	0.00	0.00	0.00	-0.17	-0.51	0.05	0.05	-0.18	-0.36	0.01	0.04	-0.18	-0.45	0.00	0.05
210	-0.08	-0.23	0.13	0.04	0.00	0.00	0.00	0.00	-0.20	-0.58	0.07	0.06	-0.19	-0.48	0.03	0.06	-0.19	-0.53	0.07	0.05
220	-0.10	-0.24	0.07	0.04	0.00	0.00	0.00	0.00	-0.21	-0.73	0.17	0.07	-0.20	-0.57	0.07	0.06	-0.17	-0.43	0.05	0.05
230	-0.13	-0.28	0.00	0.03	0.00	0.00	0.00	0.00	-0.17	-0.43	0.04	0.06	-0.17	-0.53	0.12	0.05	-0.15	-0.43	0.04	0.04
240	-0.14	-0.26	-0.02	0.03	0.00	0.00	0.00	0.00	-0.13	-0.34	0.00	0.04	-0.14	-0.40	0.02	0.04	-0.11	-0.28	0.13	0.04
250	-0.12	-0.26	0.03	0.03	0.00	0.00	0.00	0.00	-0.12	-0.34	0.22	0.04	-0.12	-0.51	0.14	0.04	-0.11	-0.36	0.16	0.04
260	-0.11	-0.23	0.01	0.03	0.00	0.00	0.00	0.00	-0.12	-0.52	0.41	0.06	-0.10	-0.54	0.15	0.05	-0.10	-0.41	0.26	0.04
270	-0.11	-0.27	0.00	0.03	0.00	0.00	0.00	0.00	-0.14	-0.73	0.20	0.08	-0.11	-0.52	0.23	0.07	-0.09	-0.46	0.16	0.06
280	-0.16	-0.35	0.09	0.04	0.00	0.00	0.00	0.00	-0.27	-0.75	0.19	0.09	-0.14	-0.48	0.24	0.10	-0.10	-0.38	0.11	0.05
290	-0.18	-0.40	0.07	0.05	0.00	0.00	0.00	0.00	-0.29	-0.93	0.13	0.09	-0.22	-0.71	0.27	0.10	-0.12	-0.34	0.23	0.05
300	-0.20	-0.41	0.02	0.05	0.00	0.00	0.00	0.00	-0.22	-0.79	0.46	0.13	-0.15	-0.62	0.32	0.11	-0.09	-0.38	0.27	0.07
310	-0.19	-0.44	-0.01	0.04	0.00	0.00	0.00	0.00	-0.15	-0.67	0.64	0.15	-0.08	-0.51	0.36	0.10	-0.07	-0.46	0.27	0.07
320	-0.20	-0.52	-0.02	0.05	0.00	0.00	0.00	0.00	-0.06	-0.80	0.72	0.19	-0.03	-0.47	0.38	0.11	-0.05	-0.35	0.46	0.08
330	-0.20	-0.53	0.00	0.05	0.00	0.00	0.00	0.00	0.00	-1.03	0.72	0.14	0.03	-0.37	0.42	0.09	-0.04	-0.39	0.34	0.08
340	-0.17	-0.49	0.10	0.05	0.00	0.00	0.00	0.00	0.01	-0.56	0.58	0.11	0.03	-0.32	0.57	0.10	-0.01	-0.38	0.54	0.09
350	-0.16	-0.43	0.09	0.05	0.00	0.00	0.00	0.00	0.01	-0.61	0.42	0.10	0.03	-0.32	0.68	0.09	0.01	-0.39	0.44	0.09
360	-0.16	-0.52	0.15	0.06	0.00	0.00	0.00	0.00	-0.02	-0.58	0.51	0.08	0.01	-0.26	0.49	0.08	0.05	-0.34	0.54	0.09

MARKETPLACE CENTER - BOSTON
EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # R 4 MEAN	MIN	MAX	RMS	TAP # R 5 MEAN	MIN	MAX	RMS	TAP # R 6 MEAN	MIN	MAX	RMS	TAP # R 7 MEAN	MIN	MAX	RMS	TAP # R 8 MEAN	MIN	MAX	RMS
10	0.07	-0.86	0.76	0.14	-0.22	-0.54	-0.01	0.06	-0.23	-0.51	0.02	0.06	-0.19	-0.52	0.09	0.06	-0.41	-1.27	0.09	0.15
20	0.02	-0.60	0.71	0.16	-0.15	-0.45	0.04	0.06	-0.16	-0.46	0.05	0.05	-0.14	-0.46	0.14	0.06	-0.39	-1.20	0.23	0.18
30	-0.04	-0.55	0.60	0.11	-0.08	-0.33	0.11	0.05	-0.10	-0.40	0.10	0.05	-0.10	-0.48	0.14	0.05	-0.32	-1.07	0.20	0.16
40	-0.12	-0.56	0.37	0.09	-0.06	-0.35	0.12	0.04	-0.09	-0.30	0.11	0.05	-0.11	-0.44	0.17	0.06	-0.38	-1.10	0.10	0.14
50	-0.28	-0.63	0.00	0.07	-0.09	-0.33	0.09	0.05	-0.15	-0.46	0.07	0.05	-0.22	-0.56	0.01	0.06	-0.55	-1.10	-0.12	0.10
60	-0.32	-0.64	-0.06	0.06	-0.07	-0.36	0.20	0.06	-0.14	-0.39	0.09	0.06	-0.25	-0.61	0.05	0.06	-0.51	-1.00	-0.16	0.11
70	-0.36	-0.78	-0.06	0.08	-0.07	-0.43	0.20	0.06	-0.16	-0.58	0.12	0.06	-0.31	-0.72	0.02	0.08	-0.45	-1.01	-0.12	0.12
80	-0.29	-0.63	0.00	0.07	-0.05	-0.36	0.30	0.06	-0.15	-0.47	0.15	0.07	-0.33	-0.72	-0.04	0.07	-0.39	-0.83	-0.13	0.08
90	-0.34	-0.95	-0.06	0.08	-0.07	-0.54	0.25	0.07	-0.14	-0.54	0.17	0.08	-0.30	-0.64	0.06	0.08	-0.42	-0.89	-0.02	0.09
100	-0.30	-0.71	0.01	0.08	-0.21	-0.72	0.21	0.10	-0.24	-0.79	0.16	0.09	-0.33	-0.77	0.23	0.09	-0.38	-1.22	-0.05	0.10
110	-0.29	-0.74	0.03	0.09	-0.23	-0.82	0.16	0.08	-0.26	-0.77	0.20	0.09	-0.28	-0.94	0.27	0.12	-0.36	-0.90	0.01	0.11
120	-0.27	-0.73	0.04	0.07	-0.23	-0.62	0.07	0.07	-0.24	-0.62	0.20	0.08	-0.12	-0.75	0.28	0.11	-0.34	-1.06	0.31	0.11
130	-0.26	-0.76	-0.03	0.06	-0.26	-0.90	0.04	0.07	-0.27	-0.56	-0.05	0.06	-0.23	-0.74	0.14	0.10	-0.22	-0.73	0.19	0.10
140	-0.32	-0.80	0.07	0.08	-0.34	-1.17	-0.07	0.08	-0.32	-0.94	-0.07	0.07	-0.33	-0.90	-0.11	0.08	-0.33	-0.84	0.12	0.09
150	-0.27	-0.66	-0.06	0.06	-0.29	-1.01	-0.07	0.07	-0.27	-0.80	-0.09	0.06	-0.27	-0.85	-0.05	0.06	-0.28	-0.70	0.00	0.06
160	-0.28	-0.68	-0.09	0.06	-0.27	-0.68	-0.06	0.06	-0.27	-0.76	-0.11	0.05	-0.26	-0.63	-0.08	0.05	-0.27	-0.73	-0.10	0.06
170	-0.29	-0.67	-0.07	0.07	-0.27	-0.91	-0.02	0.07	-0.26	-0.62	-0.05	0.06	-0.27	-0.86	-0.07	0.06	-0.28	-0.77	-0.07	0.07
180	-0.26	-0.75	0.00	0.07	-0.25	-0.71	0.38	0.08	-0.26	-0.84	-0.02	0.07	-0.24	-1.15	-0.01	0.07	-0.27	-0.84	0.03	0.08
190	-0.20	-0.49	0.01	0.05	-0.19	-0.69	0.21	0.07	-0.19	-0.69	0.02	0.06	-0.21	-0.95	0.03	0.07	-0.20	-0.97	0.08	0.07
200	-0.17	-0.63	0.05	0.05	-0.18	-0.60	0.15	0.05	-0.19	-0.53	0.07	0.06	-0.17	-0.74	0.06	0.06	-0.20	-0.72	0.06	0.06
210	-0.19	-0.61	-0.02	0.05	-0.22	-0.89	0.16	0.08	-0.19	-0.69	0.02	0.06	-0.19	-1.01	0.11	0.07	-0.20	-0.71	0.07	0.07
220	-0.17	-0.52	0.04	0.05	-0.24	-1.12	0.16	0.11	-0.19	-0.71	0.09	0.07	-0.17	-0.59	0.22	0.06	-0.17	-0.60	0.05	0.05
230	-0.15	-0.47	0.07	0.05	-0.20	-0.84	0.26	0.08	-0.17	-0.50	0.07	0.06	-0.15	-0.43	0.10	0.05	-0.15	-0.48	0.18	0.05
240	-0.13	-0.29	0.05	0.04	-0.15	-0.43	0.09	0.05	-0.14	-0.43	0.13	0.04	-0.13	-0.30	0.06	0.04	-0.13	-0.34	0.04	0.04
250	-0.12	-0.41	0.25	0.05	-0.13	-0.38	0.19	0.04	-0.12	-0.34	0.09	0.04	-0.12	-0.30	0.16	0.04	-0.12	-0.45	0.13	0.05
260	-0.09	-0.35	0.27	0.04	-0.12	-0.60	0.31	0.06	-0.10	-0.36	0.16	0.05	-0.10	-0.36	0.16	0.05	-0.09	-0.48	0.16	0.05
270	-0.08	-0.47	0.21	0.06	-0.21	-1.07	0.29	0.12	-0.12	-0.56	0.14	0.06	-0.12	-0.53	0.21	0.06	-0.11	-0.50	0.16	0.05
280	-0.04	-0.32	0.16	0.05	-0.54	-1.29	0.14	0.15	-0.23	-0.57	-0.01	0.06	-0.19	-0.57	0.05	0.06	-0.15	-0.53	0.06	0.05
290	-0.06	-0.35	0.18	0.06	-0.68	-1.45	-0.20	0.13	-0.30	-0.59	-0.07	0.06	-0.26	-0.52	0.00	0.05	-0.21	-0.51	-0.06	0.05
300	-0.06	-0.38	0.25	0.07	-0.70	-1.62	-0.11	0.15	-0.30	-0.63	-0.07	0.06	-0.28	-0.58	-0.06	0.05	-0.24	-0.54	-0.06	0.05
310	-0.07	-0.39	0.26	0.08	-0.65	-1.42	0.07	0.17	-0.29	-0.59	-0.03	0.06	-0.30	-0.58	-0.08	0.06	-0.25	-0.52	-0.03	0.05
320	-0.08	-0.38	0.33	0.08	-0.60	-1.40	0.00	0.16	-0.28	-0.57	-0.04	0.06	-0.30	-0.58	0.01	0.06	-0.27	-0.57	-0.01	0.06
330	-0.09	-0.47	0.29	0.08	-0.52	-1.35	-0.03	0.16	-0.29	-0.64	-0.03	0.06	-0.33	-0.70	-0.06	0.06	-0.29	-0.59	-0.03	0.06
340	-0.05	-0.46	0.45	0.09	-0.37	-0.98	0.08	0.12	-0.28	-0.61	0.09	0.07	-0.31	-0.63	0.00	0.07	-0.31	-0.70	-0.03	0.07
350	-0.01	-0.57	0.50	0.10	-0.28	-0.90	0.08	0.09	-0.27	-0.60	0.10	0.07	-0.28	-0.63	0.08	0.07	-0.29	-0.76	0.06	0.08
360	0.03	-0.37	0.66	0.10	-0.26	-0.65	0.09	0.07	-0.24	-0.50	0.02	0.06	-0.25	-0.56	0.05	0.07	-0.30	-1.13	0.05	0.11

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # R 9 MEAN	MIN	MAX	RMS	TAP # R 10 MEAN	MIN	MAX	RMS	TAP # R 11 MEAN	MIN	MAX	RMS	TAP # R 12 MEAN	MIN	MAX	RMS	TAP # R 13 MEAN	MIN	MAX	RMS
10	-0.26	-0.69	0.03	0.08	-0.23	-0.63	0.10	0.07	-0.24	-0.77	0.26	0.08	-0.06	-0.89	0.59	0.15	-0.13	-0.46	0.13	0.06
20	-0.17	-0.57	0.08	0.06	-0.18	-0.50	0.12	0.06	-0.23	-0.78	0.24	0.09	-0.07	-0.61	0.63	0.13	-0.10	-0.34	0.10	0.05
30	-0.09	-0.42	0.10	0.05	-0.11	-0.47	0.15	0.06	-0.16	-0.70	0.21	0.09	-0.14	-0.88	0.37	0.12	-0.05	-0.31	0.15	0.05
40	-0.04	-0.26	0.15	0.04	-0.09	-0.37	0.11	0.05	-0.16	-0.57	0.29	0.10	-0.24	-0.81	0.27	0.12	-0.04	-0.24	0.13	0.04
50	-0.06	-0.24	0.22	0.05	-0.14	-0.47	0.13	0.06	-0.27	-0.66	0.16	0.09	-0.43	-1.01	-0.10	0.11	-0.06	-0.25	0.10	0.04
60	-0.04	-0.27	0.19	0.05	-0.11	-0.44	0.15	0.07	-0.29	-0.59	0.07	0.07	-0.41	-0.89	-0.02	0.09	-0.03	-0.22	0.13	0.04
70	-0.07	-0.32	0.17	0.05	-0.14	-0.51	0.17	0.06	-0.36	-0.82	-0.10	0.08	-0.45	-0.90	-0.01	0.11	-0.06	-0.42	0.15	0.05
80	-0.08	-0.35	0.17	0.05	-0.14	-0.43	0.14	0.06	-0.38	-0.76	-0.01	0.07	-0.39	-0.80	-0.04	0.08	-0.10	-0.39	0.14	0.05
90	-0.15	-0.57	0.07	0.07	-0.15	-0.52	0.06	0.07	-0.37	-0.69	-0.05	0.08	-0.41	-1.43	-0.11	0.09	-0.16	-0.50	0.04	0.06
100	-0.24	-0.83	0.12	0.09	-0.26	-0.76	0.19	0.10	-0.34	-0.75	0.04	0.10	-0.35	-0.93	-0.05	0.09	-0.25	-0.66	0.00	0.08
110	-0.24	-0.70	0.06	0.08	-0.28	-0.72	0.15	0.09	-0.31	-0.71	0.30	0.11	-0.36	-1.17	0.01	0.10	-0.25	-0.71	0.04	0.08
120	-0.23	-0.60	-0.05	0.06	-0.29	-0.73	-0.01	0.08	-0.19	-0.83	0.16	0.11	-0.42	-1.24	-0.06	0.12	-0.24	-0.70	-0.04	0.06
130	-0.26	-0.73	-0.03	0.07	-0.25	-0.67	0.01	0.06	-0.26	-0.81	0.08	0.09	-0.32	-0.99	-0.04	0.08	-0.26	-0.84	-0.02	0.07
140	-0.34	-1.03	0.04	0.08	-0.33	-0.81	-0.04	0.07	-0.32	-0.93	-0.06	0.08	-0.35	-1.15	-0.03	0.10	-0.33	-0.82	-0.04	0.08
150	-0.29	-0.68	-0.04	0.07	-0.27	-0.63	-0.08	0.06	-0.26	-0.73	-0.07	0.06	-0.28	-0.80	0.01	0.07	-0.30	-0.74	-0.06	0.08
160	-0.29	-0.82	-0.07	0.07	-0.25	-0.52	-0.08	0.05	-0.26	-0.61	-0.09	0.05	-0.27	-0.67	-0.04	0.07	-0.29	-0.62	-0.04	0.07
170	-0.28	-0.95	0.07	0.08	-0.27	-0.62	-0.02	0.06	-0.25	-0.60	-0.06	0.06	-0.29	-0.71	-0.06	0.07	-0.30	-0.76	0.02	0.08
180	-0.25	-1.02	0.10	0.09	-0.24	-0.71	0.02	0.07	-0.25	-0.88	-0.04	0.06	-0.28	-0.74	-0.04	0.07	-0.29	-0.83	0.06	0.08
190	-0.22	-0.81	0.00	0.07	-0.20	-0.72	0.03	0.06	-0.20	-0.61	0.07	0.06	-0.22	-0.79	0.00	0.07	-0.23	-1.00	0.05	0.09
200	-0.20	-0.82	0.04	0.06	-0.18	-0.60	0.07	0.06	-0.19	-0.64	0.07	0.06	-0.20	-0.75	0.01	0.06	-0.21	-0.71	0.03	0.07
210	-0.22	-0.91	0.15	0.08	-0.20	-0.64	0.06	0.06	-0.19	-0.77	0.05	0.06	-0.21	-0.85	0.07	0.07	-0.23	-1.03	0.17	0.09
220	-0.27	-1.21	0.03	0.11	-0.20	-0.70	0.08	0.07	-0.18	-0.57	0.05	0.05	-0.18	-0.67	0.06	0.06	-0.30	-1.42	0.15	0.13
230	-0.22	-1.06	0.04	0.08	-0.17	-0.57	0.06	0.06	-0.15	-0.37	0.10	0.05	-0.15	-0.41	0.00	0.04	-0.24	-0.92	0.13	0.09
240	-0.14	-0.43	0.09	0.05	-0.14	-0.40	0.20	0.05	-0.13	-0.33	0.06	0.04	-0.13	-0.40	0.07	0.04	-0.15	-0.51	0.01	0.05
250	-0.13	-0.39	0.13	0.04	-0.12	-0.38	0.21	0.04	-0.12	-0.33	0.11	0.04	-0.12	-0.35	0.06	0.04	-0.13	-0.48	0.08	0.04
260	-0.12	-0.68	0.43	0.06	-0.10	-0.53	0.16	0.05	-0.10	-0.45	0.19	0.05	-0.11	-0.42	0.07	0.04	-0.15	-0.93	0.33	0.07
270	-0.17	-1.11	0.30	0.11	-0.13	-0.63	0.18	0.08	-0.11	-0.49	0.16	0.06	-0.10	-0.40	0.09	0.04	-0.21	-1.15	0.30	0.10
280	-0.37	-1.24	0.23	0.15	-0.25	-0.92	0.17	0.14	-0.19	-0.58	0.05	0.06	-0.15	-0.39	0.06	0.04	-0.53	-1.24	0.22	0.14
290	-0.52	-1.27	0.01	0.14	-0.40	-0.96	0.10	0.14	-0.26	-0.61	-0.05	0.05	-0.20	-0.48	0.09	0.04	-0.53	-1.18	-0.06	0.11
300	-0.45	-1.16	0.16	0.15	-0.43	-0.98	0.05	0.12	-0.30	-0.69	0.01	0.06	-0.23	-0.51	0.00	0.05	-0.44	-1.11	0.04	0.12
310	-0.31	-0.96	0.34	0.16	-0.44	-1.04	-0.01	0.12	-0.31	-0.63	-0.06	0.07	-0.25	-0.59	-0.02	0.05	-0.27	-0.96	0.17	0.15
320	-0.16	-0.87	0.39	0.17	-0.40	-0.87	-0.03	0.10	-0.31	-0.67	0.01	0.07	-0.27	-0.62	-0.04	0.06	-0.14	-0.71	0.24	0.12
330	-0.10	-0.85	0.51	0.17	-0.33	-0.87	0.02	0.09	-0.32	-0.66	0.01	0.07	-0.31	-0.90	0.08	0.08	-0.05	-0.43	0.21	0.07
340	-0.15	-0.87	0.63	0.17	-0.31	-0.78	0.10	0.09	-0.32	-0.65	0.04	0.07	-0.37	-1.03	0.27	0.10	-0.04	-0.54	0.19	0.06
350	-0.27	-0.90	0.49	0.15	-0.28	-0.74	0.03	0.08	-0.28	-0.63	0.12	0.08	-0.32	-0.98	0.29	0.14	-0.04	-0.36	0.20	0.06
360	-0.30	-0.85	0.34	0.12	-0.27	-0.56	0.02	0.07	-0.27	-0.74	0.07	0.09	-0.17	-0.83	0.50	0.18	-0.10	-0.46	0.13	0.06

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # R 14 MEAN	MIN	MAX	RMS	TAP # R 15 MEAN	MIN	MAX	RMS	TAP # R 16 MEAN	MIN	MAX	RMS	TAP # R 17 MEAN	MIN	MAX	RMS	TAP # R 18 MEAN	MIN	MAX	RMS
10	-0.10	-0.35	0.13	0.05	-0.04	-0.31	0.20	0.05	-0.02	-0.34	0.27	0.06	-0.22	-0.57	0.02	0.07	-0.17	-0.42	0.05	0.05
20	-0.08	-0.39	0.11	0.05	-0.02	-0.28	0.18	0.05	-0.02	-0.60	0.25	0.08	-0.16	-0.52	0.08	0.06	-0.13	-0.57	0.08	0.06
30	-0.06	-0.37	0.16	0.05	-0.05	-0.37	0.17	0.05	-0.10	-0.80	0.28	0.10	-0.09	-0.67	0.08	0.06	-0.11	-0.70	0.13	0.07
40	-0.07	-0.37	0.14	0.04	-0.11	-0.34	0.11	0.05	-0.23	-0.93	0.11	0.11	-0.11	-0.55	0.12	0.08	-0.16	-0.79	0.10	0.08
50	-0.11	-0.31	0.11	0.04	-0.23	-0.55	0.11	0.07	-0.43	-1.07	-0.04	0.10	-0.16	-0.63	0.09	0.07	-0.25	-0.87	0.03	0.08
60	-0.10	-0.36	0.18	0.05	-0.29	-0.59	0.05	0.07	-0.41	-1.06	-0.13	0.09	-0.06	-0.59	0.16	0.05	-0.18	-0.65	0.14	0.08
70	-0.12	-0.66	0.15	0.07	-0.36	-0.71	0.02	0.08	-0.41	-0.85	-0.07	0.08	-0.05	-0.34	0.18	0.05	-0.12	-0.49	0.20	0.07
80	-0.19	-0.54	0.16	0.08	-0.39	-0.84	0.01	0.11	-0.43	-0.77	-0.17	0.07	-0.05	-0.25	0.14	0.04	-0.10	-0.39	0.10	0.05
90	-0.31	-0.63	0.04	0.08	-0.43	-1.17	0.00	0.13	-0.45	-0.88	-0.04	0.10	-0.08	-0.31	0.10	0.05	-0.14	-0.36	0.01	0.04
100	-0.31	-0.82	0.19	0.10	-0.35	-0.87	0.05	0.12	-0.34	-0.79	0.01	0.09	-0.13	-0.44	0.07	0.06	-0.17	-0.42	0.02	0.05
110	-0.30	-1.04	0.05	0.09	-0.35	-1.02	0.09	0.12	-0.36	-1.28	-0.03	0.11	-0.14	-0.45	0.18	0.06	-0.16	-0.44	0.12	0.05
120	-0.30	-0.75	-0.06	0.08	-0.46	-1.15	-0.01	0.13	-0.56	-1.87	-0.07	0.20	-0.15	-0.37	0.19	0.05	-0.17	-0.48	0.10	0.06
130	-0.26	-0.67	-0.03	0.06	-0.36	-0.86	-0.05	0.09	-0.48	-1.31	-0.03	0.15	-0.13	-0.50	0.24	0.08	-0.18	-0.77	0.18	0.07
140	-0.29	-0.84	-0.08	0.06	-0.32	-0.87	-0.05	0.08	-0.34	-1.18	-0.09	0.10	-0.19	-0.62	0.09	0.08	-0.18	-0.52	0.12	0.07
150	-0.25	-0.65	-0.07	0.05	-0.25	-0.77	-0.06	0.06	-0.26	-0.63	-0.03	0.06	-0.16	-0.44	0.21	0.07	-0.17	-0.55	0.10	0.06
160	-0.25	-0.50	-0.05	0.05	-0.24	-0.72	-0.10	0.05	-0.25	-0.55	0.00	0.06	-0.12	-0.50	0.32	0.08	-0.14	-0.44	0.11	0.06
170	-0.26	-0.59	-0.09	0.05	-0.23	-0.60	-0.05	0.05	-0.27	-0.72	-0.05	0.07	-0.07	-0.45	0.53	0.08	-0.09	-0.43	0.13	0.06
180	-0.23	-0.54	-0.02	0.06	-0.23	-0.70	-0.03	0.05	-0.26	-0.76	-0.01	0.07	-0.08	-0.48	0.45	0.09	-0.10	-0.39	0.27	0.06
190	-0.21	-0.57	0.01	0.06	-0.19	-0.63	-0.01	0.05	-0.21	-0.75	-0.05	0.06	-0.11	-0.51	0.33	0.07	-0.12	-0.39	0.33	0.06
200	-0.20	-0.56	0.03	0.06	-0.19	-0.67	0.04	0.05	-0.20	-0.82	0.00	0.06	-0.15	-0.83	0.20	0.07	-0.15	-0.53	0.25	0.06
210	-0.21	-0.68	0.03	0.07	-0.20	-0.71	0.04	0.07	-0.22	-0.98	-0.01	0.07	-0.22	-1.20	0.15	0.10	-0.20	-0.54	0.12	0.07
220	-0.22	-0.69	0.12	0.07	-0.19	-0.62	0.07	0.06	-0.19	-0.66	0.01	0.06	-0.31	-1.60	0.14	0.15	-0.23	-0.92	0.13	0.08
230	-0.18	-0.61	0.10	0.06	-0.16	-0.56	0.04	0.05	-0.15	-0.39	0.04	0.05	-0.25	-1.02	0.16	0.11	-0.18	-0.63	0.18	0.07
240	-0.14	-0.43	0.07	0.04	-0.13	-0.41	0.06	0.04	-0.13	-0.37	0.15	0.04	-0.16	-0.65	0.11	0.05	-0.15	-0.49	0.23	0.04
250	-0.13	-0.55	0.10	0.04	-0.12	-0.44	0.19	0.04	-0.12	-0.40	0.11	0.04	-0.14	-0.48	0.18	0.05	-0.13	-0.50	0.17	0.04
260	-0.11	-0.49	0.31	0.05	-0.11	-0.50	0.18	0.05	-0.10	-0.46	0.15	0.04	-0.15	-0.81	0.19	0.07	-0.12	-0.53	0.25	0.06
270	-0.13	-0.44	0.13	0.05	-0.11	-0.43	0.15	0.05	-0.10	-0.37	0.08	0.04	-0.24	-0.95	0.13	0.10	-0.18	-0.81	0.08	0.09
280	-0.28	-0.63	-0.03	0.07	-0.16	-0.41	0.01	0.04	-0.14	-0.35	0.03	0.04	-0.54	-1.54	-0.02	0.13	-0.49	-1.08	0.02	0.13
290	-0.31	-0.58	-0.11	0.06	-0.21	-0.45	-0.01	0.05	-0.19	-0.44	-0.01	0.05	-0.48	-1.00	-0.13	0.10	-0.49	-1.10	-0.11	0.12
300	-0.27	-0.52	-0.03	0.06	-0.23	-0.51	-0.04	0.06	-0.22	-0.48	-0.03	0.05	-0.42	-0.95	-0.11	0.09	-0.42	-0.98	-0.12	0.10
310	-0.21	-0.47	0.02	0.06	-0.23	-0.54	0.02	0.06	-0.21	-0.46	-0.01	0.05	-0.35	-0.89	-0.12	0.09	-0.34	-0.90	-0.07	0.08
320	-0.16	-0.44	0.10	0.05	-0.20	-0.53	0.04	0.06	-0.20	-0.46	-0.01	0.05	-0.28	-0.66	-0.10	0.06	-0.29	-0.65	-0.08	0.06
330	-0.11	-0.47	0.10	0.06	-0.17	-0.40	0.08	0.05	-0.19	-0.43	0.13	0.06	-0.25	-0.54	-0.10	0.05	-0.27	-0.64	-0.10	0.06
340	-0.11	-0.39	0.11	0.06	-0.13	-0.46	0.14	0.06	-0.15	-0.50	0.13	0.07	-0.22	-0.44	-0.03	0.05	-0.22	-0.66	-0.08	0.05
350	-0.09	-0.32	0.17	0.06	-0.10	-0.37	0.15	0.05	-0.09	-0.45	0.15	0.06	-0.21	-0.53	-0.03	0.06	-0.19	-0.46	-0.04	0.04
360	-0.10	-0.33	0.15	0.05	-0.08	-0.38	0.24	0.06	-0.04	-0.40	0.26	0.05	-0.23	-0.55	-0.03	0.07	-0.19	-0.42	-0.04	0.04

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

	TAP # R 19				TAP # R 20				TAP # R 21				TAP # R 22				TAP # R 23			
Wind ANGLE	MEAN	MIN	MAX	RMS	MEAN	MIN	MAX	RMS	MEAN	MIN	MAX	RMS	MEAN	MIN	MAX	RMS	MEAN	MIN	MAX	RMS
10	-0.15	-0.39	0.01	0.04	-0.14	-0.39	0.00	0.04	-0.21	-0.65	0.02	0.08	-0.19	-0.55	-0.01	0.05	-0.17	-0.48	0.01	0.05
20	-0.10	-0.55	0.07	0.05	-0.11	-0.54	0.05	0.05	-0.16	-0.49	0.06	0.06	-0.13	-0.48	0.07	0.05	-0.12	-0.47	0.13	0.05
30	-0.11	-0.70	0.09	0.07	-0.11	-0.56	0.10	0.07	-0.10	-0.48	0.11	0.06	-0.11	-0.58	0.18	0.07	-0.12	-0.56	0.18	0.07
40	-0.21	-0.60	0.15	0.09	-0.18	-0.77	0.09	0.09	-0.09	-0.46	0.12	0.06	-0.14	-0.66	0.15	0.08	-0.19	-0.63	0.18	0.08
50	-0.32	-0.86	0.02	0.09	-0.31	-0.66	-0.08	0.06	-0.11	-0.41	0.11	0.06	-0.17	-0.51	0.08	0.07	-0.32	-0.66	-0.03	0.06
60	-0.32	-0.75	0.09	0.08	-0.33	-0.61	-0.03	0.06	-0.05	-0.27	0.15	0.05	-0.13	-0.44	0.14	0.06	-0.32	-0.64	-0.03	0.06
70	-0.36	-0.81	0.04	0.09	-0.39	-0.84	-0.07	0.07	-0.06	-0.29	0.27	0.05	-0.14	-0.48	0.25	0.07	-0.36	-0.79	-0.01	0.08
80	-0.31	-0.78	0.06	0.09	-0.48	-1.01	-0.16	0.09	-0.09	-0.35	0.10	0.05	-0.08	-0.48	0.21	0.06	-0.31	-0.68	0.08	0.09
90	-0.24	-0.57	0.00	0.07	-0.52	-1.09	-0.01	0.11	-0.15	-0.41	0.04	0.05	-0.14	-0.43	0.10	0.07	-0.20	-0.67	0.16	0.11
100	-0.21	-0.48	0.11	0.06	-0.45	-1.17	0.07	0.11	-0.23	-0.49	0.03	0.06	-0.23	-0.56	0.06	0.06	-0.21	-0.69	0.12	0.12
110	-0.20	-0.47	0.11	0.06	-0.39	-1.09	0.17	0.14	-0.20	-0.49	0.21	0.06	-0.20	-0.56	0.38	0.08	-0.21	-0.78	0.28	0.12
120	-0.21	-0.51	0.10	0.07	-0.24	-1.10	0.37	0.19	-0.21	-0.54	0.32	0.06	-0.17	-0.71	0.40	0.09	-0.15	-0.61	0.39	0.12
130	-0.19	-0.61	0.08	0.07	-0.19	-1.07	0.20	0.12	-0.29	-0.93	0.53	0.13	-0.26	-0.77	0.51	0.12	-0.27	-0.84	0.18	0.11
140	-0.13	-0.53	0.46	0.08	-0.08	-0.67	0.48	0.09	-0.39	-1.03	0.02	0.10	-0.39	-0.92	0.19	0.09	-0.38	-0.90	0.28	0.12
150	-0.11	-0.51	0.25	0.07	-0.08	-0.62	0.31	0.06	-0.38	-1.04	0.15	0.10	-0.35	-0.92	0.07	0.08	-0.34	-1.03	0.01	0.09
160	-0.10	-0.46	0.25	0.07	-0.09	-0.37	0.21	0.06	-0.44	-1.08	0.68	0.12	-0.38	-0.84	0.04	0.08	-0.35	-0.80	0.02	0.08
170	-0.10	-0.49	0.20	0.06	-0.13	-0.44	0.15	0.07	-0.39	-1.18	0.75	0.22	-0.36	-0.94	0.08	0.10	-0.35	-0.74	0.02	0.08
180	-0.10	-0.40	0.20	0.06	-0.14	-0.48	0.18	0.07	-0.24	-1.13	0.68	0.21	-0.28	-0.90	0.67	0.13	-0.27	-0.73	0.22	0.10
190	-0.11	-0.36	0.18	0.05	-0.15	-0.44	0.14	0.06	-0.19	-0.77	0.47	0.13	-0.20	-0.91	0.47	0.11	-0.21	-0.72	0.44	0.10
200	-0.13	-0.41	0.17	0.06	-0.15	-0.38	0.11	0.05	-0.21	-0.67	0.20	0.08	-0.22	-0.61	0.39	0.08	-0.21	-0.70	0.61	0.09
210	-0.16	-0.51	0.32	0.06	-0.16	-0.59	0.30	0.06	-0.24	-0.64	0.11	0.07	-0.25	-0.73	0.45	0.08	-0.24	-0.90	0.55	0.11
220	-0.20	-0.71	0.07	0.07	-0.18	-0.69	0.25	0.07	-0.28	-1.02	0.07	0.10	-0.24	-0.70	0.11	0.07	-0.24	-0.89	0.17	0.09
230	-0.18	-0.56	0.17	0.06	-0.16	-0.72	0.00	0.05	-0.23	-0.93	0.11	0.08	-0.21	-0.63	0.06	0.06	-0.18	-0.67	0.06	0.06
240	-0.14	-0.41	0.18	0.04	-0.14	-0.57	0.04	0.04	-0.15	-0.54	0.07	0.04	-0.14	-0.36	0.16	0.04	-0.13	-0.37	0.10	0.04
250	-0.13	-0.40	0.14	0.04	-0.12	-0.37	0.18	0.04	-0.13	-0.39	0.21	0.04	-0.13	-0.34	0.10	0.04	-0.12	-0.33	0.11	0.04
260	-0.11	-0.60	0.23	0.05	-0.11	-0.66	0.07	0.04	-0.14	-0.68	0.31	0.06	-0.11	-0.41	0.17	0.05	-0.11	-0.45	0.15	0.05
270	-0.14	-0.53	0.13	0.06	-0.11	-0.57	0.05	0.05	-0.20	-1.14	0.09	0.08	-0.13	-0.54	0.07	0.05	-0.12	-0.40	0.06	0.05
280	-0.29	-0.95	0.02	0.08	-0.18	-0.83	0.08	0.07	-0.49	-1.28	-0.14	0.11	-0.28	-0.90	0.07	0.12	-0.22	-0.69	0.10	0.09
290	-0.35	-1.03	-0.05	0.10	-0.27	-1.02	0.00	0.09	-0.48	-1.15	-0.15	0.10	-0.42	-0.98	-0.02	0.10	-0.31	-0.75	0.06	0.09
300	-0.37	-1.12	-0.07	0.10	-0.29	-0.85	-0.07	0.09	-0.42	-0.88	-0.11	0.10	-0.39	-1.06	-0.02	0.09	-0.35	-0.97	0.07	0.09
310	-0.34	-1.07	-0.04	0.11	-0.30	-0.93	-0.06	0.09	-0.36	-0.83	-0.12	0.08	-0.33	-0.92	-0.11	0.08	-0.33	-0.93	-0.04	0.09
320	-0.29	-0.96	-0.05	0.08	-0.28	-0.84	-0.03	0.08	-0.29	-0.79	-0.09	0.06	-0.30	-0.73	-0.06	0.06	-0.29	-0.72	-0.08	0.07
330	-0.26	-0.78	-0.08	0.06	-0.27	-0.80	-0.03	0.07	-0.26	-0.56	-0.08	0.05	-0.26	-0.65	-0.08	0.05	-0.25	-0.63	-0.04	0.06
340	-0.22	-0.51	-0.07	0.05	-0.26	-0.72	-0.02	0.06	-0.22	-0.50	-0.05	0.05	-0.23	-0.53	-0.06	0.05	-0.23	-0.47	-0.06	0.05
350	-0.20	-0.56	-0.04	0.04	-0.23	-0.55	-0.07	0.06	-0.22	-0.48	0.00	0.06	-0.21	-0.41	-0.05	0.05	-0.22	-0.49	-0.06	0.05
360	-0.18	-0.44	-0.03	0.04	-0.19	-0.40	0.00	0.05	-0.21	-0.59	0.00	0.06	-0.20	-0.41	-0.02	0.05	-0.20	-0.42	-0.05	0.05

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # R 24 MEAN	MIN	MAX	RMS	TAP # R 25 MEAN	MIN	MAX	RMS	TAP # R 26 MEAN	MIN	MAX	RMS	TAP # R 27 MEAN	MIN	MAX	RMS	TAP # R 28 MEAN	MIN	MAX	RMS
10	-0.17	-0.55	-0.01	0.05	-0.21	-0.58	-0.01	0.06	-0.20	-0.58	0.02	0.05	-0.18	-0.47	0.04	0.05	-0.17	-0.58	0.01	0.05
20	-0.12	-0.42	0.06	0.05	-0.15	-0.56	0.11	0.06	-0.14	-0.62	0.12	0.06	-0.14	-0.59	0.09	0.06	-0.13	-0.62	0.06	0.06
30	-0.13	-0.61	0.09	0.07	-0.10	-0.73	0.22	0.07	-0.11	-0.66	0.09	0.07	-0.12	-0.55	0.13	0.07	-0.13	-0.62	0.07	0.07
40	-0.21	-0.65	0.08	0.08	-0.09	-0.51	0.22	0.06	-0.14	-0.52	0.16	0.08	-0.18	-0.72	0.15	0.08	-0.20	-0.74	0.10	0.09
50	-0.29	-0.60	-0.02	0.06	-0.09	-0.41	0.32	0.06	-0.17	-0.56	0.19	0.08	-0.29	-0.58	-0.03	0.06	-0.31	-0.69	-0.06	0.06
60	-0.30	-0.74	-0.08	0.06	-0.02	-0.31	0.25	0.06	-0.15	-0.52	0.20	0.07	-0.30	-0.65	0.01	0.06	-0.31	-0.69	0.01	0.07
70	-0.38	-0.91	-0.07	0.09	-0.05	-0.62	0.30	0.07	-0.17	-0.75	0.21	0.08	-0.32	-0.79	0.02	0.08	-0.36	-0.71	-0.04	0.08
80	-0.52	-1.01	-0.09	0.11	-0.07	-0.35	0.16	0.06	-0.12	-0.50	0.16	0.07	-0.27	-0.72	-0.03	0.08	-0.52	-0.91	-0.13	0.10
90	-0.43	-1.46	0.18	0.14	-0.12	-0.39	0.08	0.05	-0.15	-0.47	0.06	0.06	-0.22	-0.74	0.03	0.07	-0.52	-0.98	-0.04	0.10
100	-0.38	-1.15	0.23	0.14	-0.17	-0.50	0.01	0.05	-0.19	-0.45	0.03	0.05	-0.23	-0.61	0.08	0.06	-0.54	-1.12	0.00	0.12
110	-0.22	-1.29	0.35	0.15	-0.17	-0.48	0.27	0.06	-0.18	-0.46	0.21	0.06	-0.21	-0.56	0.11	0.07	-0.42	-1.05	0.26	0.15
120	-0.07	-0.95	0.61	0.16	-0.18	-0.46	0.16	0.06	-0.17	-0.52	0.25	0.07	-0.15	-0.53	0.27	0.08	-0.23	-0.90	0.42	0.15
130	-0.12	-0.96	0.58	0.14	-0.27	-0.86	0.25	0.10	-0.26	-0.75	0.23	0.10	-0.25	-0.75	0.14	0.10	-0.31	-1.22	0.26	0.15
140	-0.05	-1.16	0.86	0.24	-0.36	-0.75	0.00	0.08	-0.36	-0.72	0.02	0.08	-0.34	-0.80	0.14	0.11	-0.40	-1.40	0.21	0.17
150	-0.12	-1.04	0.60	0.23	-0.35	-0.75	-0.04	0.07	-0.33	-0.66	0.03	0.07	-0.32	-0.70	-0.03	0.08	-0.38	-1.03	0.08	0.13
160	-0.32	-1.03	0.71	0.22	-0.36	-0.74	-0.01	0.07	-0.35	-0.71	0.03	0.07	-0.35	-0.77	-0.03	0.08	-0.36	-1.12	0.02	0.10
170	-0.44	-1.18	0.31	0.14	-0.33	-1.16	0.22	0.10	-0.31	-0.70	0.09	0.08	-0.33	-0.69	0.03	0.08	-0.36	-0.86	-0.01	0.08
180	-0.36	-1.10	0.50	0.13	-0.24	-0.90	0.34	0.11	-0.25	-0.67	0.25	0.10	-0.26	-0.63	0.13	0.09	-0.29	-0.70	0.03	0.09
190	-0.23	-0.80	0.26	0.09	-0.19	-0.60	0.35	0.08	-0.19	-0.62	0.42	0.08	-0.20	-0.63	0.19	0.08	-0.21	-0.70	0.20	0.07
200	-0.21	-0.55	0.40	0.07	-0.22	-0.64	0.23	0.07	-0.21	-0.50	0.37	0.07	-0.21	-0.60	0.17	0.07	-0.20	-0.89	0.19	0.07
210	-0.22	-0.89	0.47	0.12	-0.23	-0.78	0.05	0.07	-0.24	-0.61	0.18	0.07	-0.23	-0.75	0.34	0.09	-0.24	-0.94	0.27	0.10
220	-0.23	-0.99	0.40	0.12	-0.26	-0.87	0.30	0.09	-0.23	-0.59	0.11	0.07	-0.22	-0.67	0.07	0.08	-0.25	-1.36	0.20	0.12
230	-0.18	-0.71	0.08	0.07	-0.23	-0.70	0.06	0.07	-0.18	-0.50	0.08	0.06	-0.18	-0.66	0.15	0.06	-0.18	-1.06	0.05	0.09
240	-0.13	-0.45	0.03	0.04	-0.15	-0.33	0.11	0.04	-0.14	-0.32	0.14	0.04	-0.14	-0.38	0.03	0.04	-0.14	-0.48	0.13	0.04
250	-0.12	-0.36	0.08	0.04	-0.13	-0.29	0.15	0.04	-0.13	-0.35	0.35	0.04	-0.12	-0.48	0.18	0.04	-0.12	-0.36	0.20	0.04
260	-0.10	-0.46	0.06	0.04	-0.12	-0.43	0.24	0.05	-0.10	-0.42	0.27	0.04	-0.11	-0.42	0.17	0.04	-0.09	-0.37	0.15	0.04
270	-0.11	-0.36	0.02	0.04	-0.18	-0.74	0.22	0.08	-0.12	-0.51	0.20	0.05	-0.11	-0.56	0.14	0.05	-0.10	-0.35	0.14	0.04
280	-0.18	-0.54	0.02	0.05	-0.48	-1.26	0.13	0.13	-0.19	-0.91	0.27	0.13	-0.15	-0.68	0.17	0.10	-0.15	-0.58	0.26	0.08
290	-0.25	-0.73	0.01	0.08	-0.51	-1.27	0.00	0.11	-0.34	-0.92	0.28	0.11	-0.30	-0.94	0.17	0.11	-0.24	-0.65	0.10	0.08
300	-0.28	-0.69	0.00	0.08	-0.43	-0.88	-0.08	0.10	-0.36	-1.03	0.07	0.10	-0.34	-0.94	0.00	0.09	-0.28	-0.80	0.11	0.08
310	-0.28	-0.91	-0.06	0.07	-0.36	-0.96	-0.04	0.09	-0.34	-0.89	0.15	0.08	-0.32	-0.91	0.05	0.09	-0.28	-0.75	0.11	0.08
320	-0.27	-0.80	-0.08	0.07	-0.30	-0.82	-0.09	0.07	-0.30	-0.71	-0.05	0.07	-0.30	-0.81	0.07	0.07	-0.28	-0.88	-0.02	0.07
330	-0.27	-0.62	-0.07	0.06	-0.26	-0.56	-0.06	0.06	-0.27	-0.68	-0.02	0.06	-0.26	-0.76	0.03	0.06	-0.27	-0.84	-0.08	0.07
340	-0.26	-0.70	-0.02	0.06	-0.23	-0.52	-0.05	0.05	-0.22	-0.45	-0.06	0.05	-0.23	-0.66	-0.06	0.05	-0.24	-0.63	-0.05	0.06
350	-0.24	-0.58	-0.01	0.06	-0.21	-0.51	-0.02	0.05	-0.20	-0.67	-0.02	0.05	-0.22	-0.74	-0.02	0.05	-0.22	-0.59	-0.02	0.06
360	-0.20	-0.53	0.01	0.05	-0.21	-0.58	-0.02	0.06	-0.20	-0.46	0.01	0.05	-0.20	-0.50	-0.03	0.05	-0.21	-0.54	-0.04	0.05

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # R 29 MEAN	MIN	MAX	RMS	TAP # R 30 MEAN	MIN	MAX	RMS	TAP # R 31 MEAN	MIN	MAX	RMS	TAP # R 32 MEAN	MIN	MAX	RMS	TAP # S 1 MEAN	MIN	MAX	RMS
10	-0.19	-0.46	0.01	0.05	-0.19	-0.43	-0.02	0.05	-0.18	-0.49	0.00	0.05	-0.18	-0.47	0.03	0.06	0.22	-0.11	0.80	0.11
20	-0.14	-0.51	0.06	0.06	-0.15	-0.50	0.05	0.06	-0.14	-0.45	0.14	0.05	-0.12	-0.52	0.12	0.05	0.25	-0.07	0.85	0.11
30	-0.11	-0.58	0.15	0.07	-0.10	-0.43	0.17	0.06	-0.10	-0.44	0.14	0.06	-0.10	-0.46	0.13	0.06	0.15	-0.18	0.67	0.09
40	-0.11	-0.45	0.22	0.06	-0.14	-0.45	0.11	0.06	-0.16	-0.54	0.08	0.07	-0.15	-0.51	0.08	0.07	0.20	-0.20	0.77	0.10
50	-0.19	-0.57	0.35	0.08	-0.24	-0.52	0.00	0.06	-0.26	-0.51	-0.05	0.05	-0.25	-0.52	-0.04	0.05	0.25	-0.26	0.92	0.13
60	-0.17	-0.76	0.23	0.09	-0.21	-0.59	0.10	0.07	-0.24	-0.58	-0.02	0.06	-0.22	-0.46	0.01	0.06	0.27	-0.26	0.95	0.13
70	-0.11	-0.57	0.33	0.09	-0.20	-0.64	0.25	0.09	-0.31	-0.65	0.04	0.07	-0.29	-0.61	-0.05	0.07	0.17	-0.35	0.87	0.14
80	-0.03	-0.40	0.23	0.07	-0.08	-0.56	0.26	0.09	-0.30	-0.77	0.12	0.10	-0.32	-0.72	-0.02	0.08	0.11	-0.50	0.87	0.16
90	-0.02	-0.28	0.22	0.06	-0.03	-0.31	0.26	0.06	-0.11	-0.57	0.28	0.11	-0.27	-0.80	0.25	0.10	0.00	-0.60	0.64	0.14
100	-0.03	-0.42	0.32	0.07	-0.03	-0.32	0.34	0.06	0.00	-0.54	0.35	0.10	-0.21	-0.69	0.29	0.12	-0.06	-0.50	0.75	0.12
110	-0.04	-0.43	0.31	0.07	-0.02	-0.32	0.40	0.07	0.04	-0.35	0.35	0.08	-0.09	-0.74	0.55	0.14	-0.12	-0.65	0.50	0.10
120	-0.06	-0.37	0.35	0.07	-0.05	-0.37	0.35	0.07	0.00	-0.38	0.48	0.08	-0.01	-0.61	0.65	0.14	-0.17	-0.46	0.15	0.05
130	-0.09	-0.64	0.57	0.11	-0.05	-0.60	0.48	0.11	-0.04	-0.56	0.57	0.11	-0.04	-0.66	0.42	0.11	-0.22	-0.52	0.01	0.05
140	-0.05	-0.60	0.42	0.10	0.01	-0.55	0.44	0.11	0.07	-0.47	0.51	0.11	0.09	-0.62	0.65	0.12	-0.33	-0.72	-0.02	0.07
150	-0.05	-0.42	0.39	0.09	0.01	-0.51	0.52	0.10	0.06	-0.40	0.58	0.10	0.05	-0.51	0.63	0.11	-0.25	-1.04	-0.04	0.07
160	-0.02	-0.39	0.45	0.09	0.03	-0.33	0.46	0.09	0.04	-0.29	0.49	0.10	0.04	-0.46	0.57	0.10	-0.22	-0.67	-0.05	0.06
170	0.02	-0.43	0.67	0.11	0.05	-0.36	0.49	0.10	0.03	-0.36	0.50	0.09	0.01	-0.36	0.54	0.09	-0.22	-0.56	0.03	0.05
180	0.04	-0.48	0.72	0.12	0.06	-0.34	0.62	0.12	0.04	-0.42	0.51	0.11	0.00	-0.47	0.49	0.09	-0.20	-0.50	-0.03	0.05
190	-0.04	-0.39	0.84	0.11	-0.02	-0.36	0.92	0.12	-0.04	-0.42	0.54	0.10	-0.06	-0.38	0.54	0.09	-0.16	-0.31	0.00	0.03
200	-0.12	-0.37	0.26	0.07	-0.12	-0.44	0.51	0.07	-0.10	-0.42	0.52	0.08	-0.11	-0.37	0.36	0.07	-0.15	-0.36	0.00	0.04
210	-0.22	-0.62	0.37	0.07	-0.21	-0.57	0.44	0.09	-0.17	-0.69	0.56	0.11	-0.17	-0.97	0.49	0.10	-0.17	-0.35	-0.03	0.04
220	-0.25	-0.61	0.03	0.07	-0.25	-0.63	0.03	0.07	-0.25	-0.69	0.30	0.09	-0.24	-1.03	0.29	0.11	-0.18	-0.32	0.00	0.04
230	-0.21	-0.49	-0.01	0.05	-0.21	-0.49	-0.04	0.05	-0.19	-0.58	0.09	0.06	-0.20	-0.98	0.07	0.08	-0.15	-0.32	0.00	0.03
240	-0.15	-0.36	0.00	0.03	-0.16	-0.37	0.02	0.04	-0.15	-0.37	0.01	0.04	-0.15	-0.47	0.02	0.05	-0.13	-0.27	0.00	0.03
250	-0.14	-0.31	0.07	0.03	-0.13	-0.26	0.01	0.03	-0.12	-0.38	0.11	0.04	-0.12	-0.35	0.05	0.04	-0.10	-0.27	0.05	0.03
260	-0.12	-0.41	0.04	0.04	-0.11	-0.29	0.11	0.04	-0.11	-0.41	0.04	0.04	-0.11	-0.34	0.12	0.04	-0.11	-0.25	0.01	0.03
270	-0.16	-0.50	0.10	0.05	-0.15	-0.65	0.04	0.05	-0.13	-0.51	0.10	0.05	-0.12	-0.48	0.10	0.04	-0.13	-0.31	0.02	0.04
280	-0.37	-1.10	0.00	0.09	-0.32	-0.88	0.02	0.09	-0.26	-0.91	0.20	0.10	-0.22	-0.74	0.28	0.09	-0.28	-0.58	-0.08	0.06
290	-0.40	-0.81	-0.04	0.09	-0.39	-0.88	-0.09	0.08	-0.31	-0.84	0.18	0.09	-0.28	-0.81	0.31	0.09	-0.33	-0.67	-0.09	0.06
300	-0.36	-0.81	-0.04	0.08	-0.35	-0.83	-0.13	0.07	-0.31	-0.71	0.05	0.07	-0.29	-0.78	0.18	0.08	-0.30	-0.70	0.01	0.07
310	-0.32	-0.69	-0.13	0.07	-0.32	-0.78	-0.05	0.07	-0.29	-0.68	0.02	0.07	-0.29	-0.73	0.02	0.07	-0.30	-0.85	0.00	0.07
320	-0.28	-0.53	-0.07	0.06	-0.28	-0.73	-0.07	0.06	-0.29	-0.84	-0.06	0.06	-0.30	-0.73	-0.08	0.07	-0.26	-0.78	0.29	0.10
330	-0.26	-0.53	-0.09	0.05	-0.25	-0.57	-0.06	0.05	-0.27	-0.47	-0.12	0.05	-0.28	-0.59	-0.11	0.05	-0.17	-0.75	0.30	0.12
340	-0.23	-0.47	-0.06	0.05	-0.23	-0.52	-0.07	0.05	-0.23	-0.52	-0.07	0.05	-0.24	-0.52	-0.09	0.05	-0.08	-0.69	0.59	0.13
350	-0.21	-0.47	-0.01	0.05	-0.22	-0.51	-0.04	0.05	-0.22	-0.46	-0.05	0.05	-0.23	-0.57	-0.05	0.05	0.00	-0.43	0.58	0.09
360	-0.20	-0.50	-0.03	0.05	-0.20	-0.40	-0.03	0.05	-0.18	-0.39	-0.03	0.04	-0.19	-0.42	-0.01	0.05	0.13	-0.26	0.65	0.09

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # S 2 MEAN	MIN	MAX	RMS	TAP # S 3 MEAN	MIN	MAX	RMS	TAP # S 4 MEAN	MIN	MAX	RMS	TAP # S 5 MEAN	MIN	MAX	RMS	TAP # S 6 MEAN	MIN	MAX	RMS
10	0.25	-0.32	1.17	0.13	0.14	-0.14	0.69	0.09	0.17	-0.06	0.62	0.08	0.14	-0.20	0.78	0.08	0.07	-0.19	0.54	0.07
20	0.24	-0.29	0.89	0.12	0.10	-0.10	0.55	0.07	0.16	-0.09	0.74	0.09	0.14	-0.20	0.55	0.09	0.04	-0.17	0.33	0.05
30	0.08	-0.67	0.60	0.11	0.03	-0.17	0.43	0.06	0.07	-0.12	0.44	0.06	0.05	-0.48	0.45	0.09	-0.01	-0.30	0.23	0.05
40	-0.04	-0.78	0.56	0.13	-0.02	-0.18	0.30	0.05	0.03	-0.18	0.37	0.05	-0.07	-0.75	0.33	0.11	-0.03	-0.19	0.21	0.04
50	-0.24	-1.12	0.29	0.17	-0.05	-0.23	0.12	0.04	-0.01	-0.31	0.21	0.05	-0.22	-0.98	0.24	0.13	-0.06	-0.24	0.08	0.04
60	-0.30	-1.12	0.20	0.16	-0.07	-0.21	0.10	0.03	-0.05	-0.30	0.12	0.05	-0.26	-0.96	0.06	0.11	-0.08	-0.22	0.06	0.03
70	-0.34	-1.15	0.09	0.16	-0.11	-0.34	0.06	0.04	-0.12	-0.37	0.06	0.05	-0.34	-1.04	0.02	0.12	-0.12	-0.30	0.05	0.04
80	-0.30	-1.12	0.07	0.12	-0.14	-0.45	0.08	0.06	-0.16	-0.53	0.10	0.06	-0.34	-1.06	0.05	0.12	-0.14	-0.41	0.06	0.05
90	-0.34	-1.24	-0.03	0.12	-0.19	-0.58	0.12	0.07	-0.19	-0.86	0.08	0.07	-0.38	-1.06	0.00	0.14	-0.16	-0.44	0.09	0.06
100	-0.30	-1.11	0.02	0.11	-0.22	-1.08	0.09	0.08	-0.25	-0.88	0.04	0.09	-0.36	-1.19	0.07	0.14	-0.19	-0.67	0.10	0.07
110	-0.25	-0.89	0.00	0.09	-0.24	-0.90	0.05	0.09	-0.24	-1.41	0.04	0.09	-0.32	-1.28	0.07	0.14	-0.19	-0.67	0.07	0.08
120	-0.20	-0.66	-0.02	0.05	-0.20	-0.59	0.00	0.06	-0.21	-1.50	0.00	0.06	-0.23	-1.13	-0.02	0.09	-0.20	-0.81	-0.02	0.06
130	-0.24	-0.56	-0.09	0.05	-0.21	-0.62	-0.04	0.04	-0.24	-0.72	-0.07	0.05	-0.24	-0.74	-0.01	0.06	-0.22	-0.70	-0.03	0.04
140	-0.31	-0.97	-0.06	0.07	-0.34	-0.75	-0.12	0.07	-0.32	-0.76	-0.08	0.06	-0.31	-1.12	0.00	0.08	-0.36	-1.33	-0.05	0.10
150	-0.22	-0.74	-0.02	0.06	-0.29	-0.76	-0.06	0.07	-0.28	-0.75	-0.05	0.07	-0.25	-0.84	-0.02	0.06	-0.31	-1.14	-0.02	0.09
160	-0.22	-0.63	-0.02	0.05	-0.30	-0.82	-0.08	0.07	-0.27	-0.73	-0.06	0.07	-0.24	-0.73	-0.02	0.06	-0.32	-1.29	-0.06	0.10
170	-0.22	-0.80	-0.05	0.05	-0.28	-1.04	-0.07	0.07	-0.27	-0.90	-0.04	0.07	-0.23	-0.67	-0.04	0.06	-0.30	-1.33	-0.10	0.10
180	-0.18	-0.60	0.02	0.05	-0.25	-0.79	-0.08	0.06	-0.24	-0.79	0.00	0.07	-0.20	-0.58	0.01	0.05	-0.28	-1.02	-0.03	0.09
190	-0.15	-0.31	-0.02	0.03	-0.17	-0.39	-0.02	0.04	-0.16	-0.40	-0.02	0.04	-0.16	-0.35	0.00	0.03	-0.18	-0.65	-0.03	0.05
200	-0.16	-0.41	-0.01	0.04	-0.15	-0.34	0.02	0.04	-0.15	-0.56	0.01	0.04	-0.16	-0.37	-0.01	0.03	-0.16	-0.64	0.01	0.05
210	-0.16	-0.39	0.01	0.04	-0.17	-0.48	-0.01	0.05	-0.16	-0.72	0.00	0.04	-0.18	-0.41	0.02	0.04	-0.17	-0.70	0.04	0.06
220	-0.16	-0.44	-0.03	0.04	-0.17	-0.63	-0.01	0.05	-0.16	-0.52	0.00	0.04	-0.16	-0.40	0.01	0.04	-0.16	-0.61	0.02	0.05
230	-0.15	-0.29	-0.03	0.03	-0.13	-0.29	0.02	0.03	-0.15	-0.36	-0.01	0.03	-0.15	-0.34	-0.02	0.03	-0.14	-0.37	0.01	0.04
240	-0.11	-0.28	0.04	0.03	-0.13	-0.31	0.03	0.04	-0.13	-0.36	0.08	0.05	-0.12	-0.26	0.02	0.03	-0.13	-0.34	0.06	0.04
250	-0.09	-0.27	0.03	0.03	-0.12	-0.29	0.05	0.03	-0.10	-0.25	0.05	0.03	-0.12	-0.28	0.05	0.03	-0.12	-0.34	0.06	0.04
260	-0.10	-0.26	0.07	0.03	-0.10	-0.26	0.09	0.04	-0.10	-0.26	0.08	0.03	-0.10	-0.23	0.04	0.03	-0.12	-0.31	0.00	0.03
270	-0.07	-0.23	0.14	0.04	-0.03	-0.63	0.32	0.08	-0.04	-0.25	0.24	0.06	-0.09	-0.32	0.13	0.04	-0.11	-0.53	0.24	0.06
280	-0.11	-0.26	0.08	0.04	-0.07	-0.67	0.50	0.11	-0.04	-0.22	0.32	0.05	-0.15	-0.38	0.06	0.04	-0.21	-0.93	0.21	0.10
290	-0.13	-0.33	0.10	0.04	-0.07	-0.87	0.39	0.11	-0.05	-0.28	0.30	0.05	-0.18	-0.36	0.05	0.04	-0.25	-0.81	0.22	0.12
300	-0.11	-0.31	0.32	0.07	-0.01	-0.61	0.64	0.14	-0.02	-0.25	0.39	0.07	-0.16	-0.40	0.15	0.05	-0.15	-0.90	0.29	0.12
310	-0.06	-0.32	0.43	0.07	0.07	-0.61	0.65	0.14	0.00	-0.22	0.47	0.08	-0.12	-0.36	0.22	0.06	-0.07	-0.58	0.39	0.11
320	-0.01	-0.26	0.66	0.09	0.11	-0.49	0.92	0.14	0.05	-0.19	0.58	0.09	-0.09	-0.36	0.47	0.07	-0.02	-0.60	0.53	0.10
330	0.09	-0.21	0.97	0.12	0.23	-0.43	0.99	0.15	0.09	-0.19	0.56	0.10	-0.01	-0.31	0.57	0.09	0.06	-0.41	0.75	0.11
340	0.12	-0.22	0.87	0.12	0.22	-0.61	0.92	0.13	0.13	-0.18	0.76	0.10	0.04	-0.27	0.60	0.09	0.09	-0.33	0.69	0.09
350	0.17	-0.13	0.93	0.11	0.24	-0.11	0.93	0.12	0.20	-0.13	0.79	0.11	0.09	-0.17	0.60	0.08	0.13	-0.19	0.64	0.09
360	0.23	-0.11	0.90	0.12	0.22	-0.06	0.73	0.11	0.20	-0.08	0.82	0.09	0.15	-0.11	0.84	0.09	0.13	-0.15	0.57	0.07

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # S 7 MEAN	MIN	MAX	RMS	TAP # S 8 MEAN	MIN	MAX	RMS	TAP # S 9 MEAN	MIN	MAX	RMS	TAP # S 10 MEAN	MIN	MAX	RMS	TAP # S 11 MEAN	MIN	MAX	RMS
10	-0.02	-0.59	0.49	0.11	0.10	-0.50	0.60	0.10	0.04	-0.47	0.29	0.05	0.03	-0.36	0.21	0.05	0.00	-0.40	0.18	0.05
20	-0.08	-0.48	0.22	0.08	0.14	-0.30	0.57	0.09	0.02	-0.52	0.23	0.05	0.00	-0.51	0.21	0.05	0.00	-0.36	0.14	0.05
30	-0.08	-0.42	0.17	0.06	0.07	-0.50	0.51	0.09	-0.03	-0.42	0.16	0.05	-0.03	-0.64	0.14	0.06	-0.02	-0.46	0.15	0.05
40	-0.10	-0.33	0.13	0.05	0.02	-0.57	0.44	0.10	-0.11	-0.77	0.18	0.07	-0.07	-0.63	0.15	0.06	-0.04	-0.46	0.12	0.05
50	-0.12	-0.29	0.02	0.04	-0.11	-0.82	0.40	0.13	-0.25	-1.41	0.06	0.10	-0.16	-1.03	0.16	0.11	-0.09	-0.72	0.16	0.08
60	-0.12	-0.33	0.05	0.04	-0.16	-0.63	0.24	0.11	-0.32	-1.23	0.06	0.11	-0.22	-1.04	0.10	0.11	-0.12	-0.69	0.13	0.08
70	-0.14	-0.34	0.03	0.04	-0.22	-0.91	0.18	0.13	-0.36	-0.78	-0.04	0.10	-0.23	-1.06	0.06	0.11	-0.14	-0.79	0.10	0.08
80	-0.16	-0.42	0.07	0.06	-0.29	-0.86	0.11	0.14	-0.46	-1.07	-0.09	0.11	-0.30	-1.09	0.04	0.11	-0.17	-0.69	0.08	0.08
90	-0.16	-0.52	0.07	0.06	-0.22	-1.23	0.20	0.14	-0.40	-0.95	-0.04	0.10	-0.31	-1.41	0.06	0.13	-0.22	-1.06	0.11	0.11
100	-0.18	-0.58	0.16	0.06	-0.15	-0.92	0.27	0.12	-0.34	-0.94	0.02	0.10	-0.22	-0.94	0.03	0.08	-0.17	-0.83	0.11	0.09
110	-0.17	-0.74	0.09	0.07	-0.13	-0.77	0.41	0.11	-0.25	-0.78	0.03	0.09	-0.18	-0.64	0.08	0.07	-0.13	-0.48	0.07	0.05
120	-0.17	-0.41	0.02	0.04	-0.18	-0.61	0.31	0.08	-0.17	-0.55	0.12	0.07	-0.13	-0.44	0.10	0.05	-0.12	-0.41	0.03	0.04
130	-0.22	-0.58	-0.04	0.05	-0.25	-0.56	0.06	0.07	-0.18	-0.57	0.08	0.06	-0.14	-0.58	0.10	0.05	-0.13	-0.46	0.02	0.04
140	-0.34	-0.77	-0.04	0.08	-0.35	-0.99	0.06	0.10	-0.21	-0.63	0.08	0.07	-0.19	-1.09	0.05	0.08	-0.18	-1.22	0.02	0.07
150	-0.26	-0.68	0.01	0.07	-0.25	-0.96	0.11	0.09	-0.17	-0.98	0.08	0.07	-0.15	-1.00	0.10	0.08	-0.14	-0.69	0.07	0.06
160	-0.27	-0.82	0.13	0.07	-0.24	-0.99	0.01	0.09	-0.16	-1.24	0.12	0.07	-0.16	-1.45	0.12	0.07	-0.13	-0.58	0.07	0.05
170	-0.25	-0.66	0.07	0.07	-0.24	-1.00	0.06	0.09	-0.15	-0.81	0.12	0.06	-0.12	-0.65	0.05	0.05	-0.11	-0.43	0.10	0.04
180	-0.23	-0.62	-0.03	0.06	-0.20	-0.97	0.04	0.08	-0.13	-0.65	0.05	0.05	-0.12	-0.43	0.09	0.05	-0.09	-0.30	0.05	0.04
190	-0.17	-0.34	-0.03	0.04	-0.17	-0.50	0.01	0.04	-0.12	-0.32	0.03	0.04	-0.11	-0.38	0.07	0.04	-0.10	-0.30	0.09	0.04
200	-0.15	-0.38	0.09	0.04	-0.15	-0.35	0.01	0.04	-0.14	-0.38	0.08	0.04	-0.11	-0.43	0.09	0.05	-0.12	-0.37	0.08	0.05
210	-0.16	-0.49	0.18	0.05	-0.17	-0.40	0.02	0.04	-0.14	-0.40	0.10	0.05	-0.12	-0.51	0.06	0.05	-0.12	-0.38	0.11	0.05
220	-0.15	-0.45	0.13	0.05	-0.17	-0.39	-0.01	0.04	-0.13	-0.32	0.11	0.04	-0.13	-0.42	0.08	0.04	-0.14	-0.43	0.07	0.04
230	-0.14	-0.37	0.01	0.04	-0.15	-0.31	0.02	0.03	-0.14	-0.36	0.02	0.04	-0.15	-0.44	0.03	0.04	-0.14	-0.32	0.03	0.04
240	-0.12	-0.28	0.02	0.04	-0.14	-0.30	0.02	0.03	-0.12	-0.29	0.05	0.04	-0.14	-0.34	0.05	0.04	-0.12	-0.27	0.04	0.04
250	-0.11	-0.30	0.10	0.04	-0.07	-0.21	0.08	0.03	-0.13	-0.33	0.01	0.04	-0.11	-0.33	0.06	0.03	-0.12	-0.34	0.06	0.04
260	-0.09	-0.27	0.15	0.04	-0.11	-0.28	0.06	0.03	-0.11	-0.38	0.04	0.04	-0.13	-0.28	0.01	0.04	-0.13	-0.43	0.05	0.04
270	0.03	-0.30	0.62	0.09	-0.16	-0.63	0.11	0.07	-0.14	-0.45	0.02	0.05	-0.14	-0.45	0.05	0.05	-0.14	-0.40	0.05	0.05
280	0.20	-0.16	0.86	0.11	-0.29	-0.96	-0.01	0.09	-0.14	-0.43	0.01	0.05	-0.16	-0.50	0.03	0.06	-0.13	-0.37	0.05	0.05
290	0.18	-0.13	0.76	0.10	-0.44	-1.09	-0.14	0.11	-0.13	-0.44	0.05	0.04	-0.15	-0.50	0.08	0.06	-0.09	-0.31	0.08	0.04
300	0.16	-0.12	1.07	0.10	-0.44	-1.03	0.01	0.11	-0.11	-0.38	0.08	0.04	-0.13	-0.44	0.07	0.05	-0.09	-0.29	0.09	0.04
310	0.17	-0.12	0.76	0.10	-0.44	-1.14	-0.06	0.11	-0.10	-0.30	0.10	0.04	-0.09	-0.41	0.11	0.05	-0.06	-0.22	0.18	0.04
320	0.17	-0.18	0.77	0.10	-0.44	-1.04	0.06	0.12	-0.05	-0.27	0.25	0.05	-0.04	-0.31	0.20	0.05	-0.02	-0.34	0.21	0.04
330	0.19	-0.08	0.96	0.10	-0.37	-1.65	0.24	0.16	0.00	-0.21	0.24	0.05	-0.01	-0.33	0.20	0.05	-0.01	-0.24	0.21	0.04
340	0.16	-0.12	0.68	0.09	-0.24	-1.23	0.24	0.15	0.01	-0.20	0.29	0.05	0.01	-0.23	0.24	0.04	0.00	-0.40	0.22	0.05
350	0.13	-0.29	0.68	0.10	-0.16	-1.13	0.33	0.15	0.03	-0.30	0.26	0.04	0.01	-0.24	0.21	0.04	0.00	-0.43	0.20	0.05
360	0.07	-0.39	0.50	0.08	-0.01	-0.56	0.61	0.11	0.05	-0.25	0.36	0.04	0.03	-0.30	0.22	0.04	0.02	-0.28	0.18	0.04

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # S 12 MEAN	MIN	MAX	RMS	TAP # S 13 MEAN	MIN	MAX	RMS	TAP # S 14 MEAN	MIN	MAX	RMS	TAP # S 15 MEAN	MIN	MAX	RMS	TAP # S 16 MEAN	MIN	MAX	RMS
10	0.02	-0.12	0.17	0.03	0.06	-0.11	0.36	0.04	0.02	-0.20	0.20	0.04	0.05	-0.10	0.23	0.04	0.05	-0.09	0.19	0.04
20	0.02	-0.15	0.15	0.03	0.04	-0.13	0.33	0.04	0.03	-0.17	0.17	0.04	0.04	-0.12	0.20	0.03	0.05	-0.08	0.22	0.04
30	0.00	-0.19	0.13	0.03	0.03	-0.17	0.29	0.04	0.02	-0.22	0.17	0.04	0.03	-0.13	0.18	0.04	0.02	-0.17	0.18	0.03
40	-0.02	-0.18	0.10	0.03	0.00	-0.18	0.24	0.04	0.01	-0.17	0.17	0.04	0.01	-0.11	0.14	0.03	0.01	-0.16	0.16	0.03
50	-0.06	-0.31	0.10	0.04	-0.04	-0.37	0.22	0.05	-0.02	-0.30	0.24	0.06	-0.03	-0.26	0.13	0.04	-0.01	-0.19	0.16	0.04
60	-0.07	-0.24	0.06	0.03	-0.06	-0.30	0.22	0.05	-0.04	-0.30	0.29	0.05	-0.05	-0.24	0.08	0.04	-0.05	-0.20	0.09	0.03
70	-0.10	-0.29	0.03	0.04	-0.10	-0.41	0.14	0.05	-0.08	-0.31	0.20	0.05	-0.09	-0.34	0.07	0.04	-0.09	-0.23	0.08	0.04
80	-0.11	-0.28	0.03	0.04	-0.11	-0.36	0.15	0.05	-0.10	-0.38	0.27	0.05	-0.12	-0.38	0.05	0.04	-0.12	-0.35	0.05	0.04
90	-0.13	-0.34	0.03	0.04	-0.13	-0.53	0.18	0.06	-0.13	-0.45	0.19	0.06	-0.14	-0.34	0.03	0.04	-0.13	-0.32	0.02	0.04
100	-0.13	-0.36	0.04	0.04	-0.13	-0.52	0.07	0.05	-0.13	-0.33	0.15	0.05	-0.14	-0.32	0.03	0.04	-0.14	-0.34	0.01	0.04
110	-0.12	-0.28	0.04	0.04	-0.14	-0.43	0.05	0.04	-0.12	-0.31	0.10	0.04	-0.13	-0.38	0.04	0.04	-0.15	-0.40	0.00	0.04
120	-0.11	-0.31	0.03	0.04	-0.12	-0.31	0.07	0.04	-0.12	-0.33	0.13	0.04	-0.12	-0.31	0.03	0.04	-0.13	-0.48	0.03	0.04
130	-0.12	-0.37	0.02	0.03	-0.12	-0.29	0.06	0.04	-0.10	-0.27	0.18	0.04	-0.12	-0.29	0.07	0.04	-0.12	-0.28	0.02	0.03
140	-0.18	-0.46	0.02	0.05	-0.17	-0.41	0.00	0.05	-0.17	-0.39	0.14	0.05	-0.17	-0.40	0.09	0.05	-0.17	-0.40	0.06	0.05
150	-0.13	-0.46	0.08	0.05	-0.13	-0.37	0.06	0.04	-0.13	-0.43	0.20	0.05	-0.13	-0.39	0.13	0.05	-0.14	-0.37	0.10	0.04
160	-0.13	-0.31	0.04	0.04	-0.12	-0.31	0.11	0.04	-0.12	-0.41	0.12	0.05	-0.13	-0.32	0.10	0.04	-0.13	-0.30	0.12	0.04
170	-0.10	-0.29	0.12	0.04	-0.10	-0.33	0.08	0.04	-0.12	-0.41	0.17	0.04	-0.12	-0.28	0.08	0.04	-0.12	-0.33	0.14	0.04
180	-0.10	-0.25	0.08	0.03	-0.10	-0.32	0.05	0.03	-0.10	-0.32	0.16	0.04	-0.10	-0.26	0.09	0.04	-0.11	-0.29	0.13	0.04
190	-0.09	-0.29	0.10	0.04	-0.11	-0.31	0.10	0.04	-0.10	-0.30	0.36	0.05	-0.09	-0.32	0.27	0.04	-0.11	-0.33	0.19	0.04
200	-0.11	-0.34	0.18	0.05	-0.11	-0.50	0.13	0.05	-0.10	-0.48	0.26	0.07	-0.10	-0.36	0.25	0.06	-0.12	-0.41	0.34	0.06
210	-0.14	-0.36	0.02	0.04	-0.16	-0.42	0.03	0.05	-0.14	-0.43	0.26	0.06	-0.15	-0.37	0.18	0.05	-0.15	-0.42	0.20	0.05
220	-0.15	-0.38	0.11	0.04	-0.16	-0.44	0.04	0.04	-0.14	-0.39	0.18	0.05	-0.16	-0.36	0.06	0.05	-0.16	-0.37	0.04	0.04
230	-0.14	-0.31	0.01	0.03	-0.11	-0.29	0.06	0.04	-0.15	-0.38	0.18	0.04	-0.14	-0.29	0.01	0.03	-0.16	-0.37	-0.01	0.04
240	-0.12	-0.28	0.05	0.04	-0.12	-0.29	0.06	0.04	-0.12	-0.26	0.05	0.04	-0.12	-0.27	0.03	0.04	-0.12	-0.31	0.07	0.04
250	-0.10	-0.30	0.16	0.05	-0.12	-0.31	0.11	0.04	-0.11	-0.35	0.17	0.05	-0.10	-0.28	0.11	0.05	-0.09	-0.26	0.26	0.05
260	-0.08	-0.32	0.41	0.06	-0.10	-0.34	0.18	0.06	-0.10	-0.47	0.30	0.06	-0.06	-0.30	0.46	0.07	-0.03	-0.23	0.36	0.06
270	-0.02	-0.25	0.47	0.06	-0.06	-0.35	0.28	0.06	-0.05	-0.27	0.22	0.06	0.05	-0.28	0.55	0.08	0.13	-0.18	0.72	0.11
280	-0.02	-0.28	0.28	0.05	-0.06	-0.31	0.29	0.05	-0.07	-0.36	0.17	0.05	0.05	-0.28	0.51	0.07	0.10	-0.13	0.81	0.09
290	-0.02	-0.21	0.24	0.05	-0.07	-0.34	0.17	0.04	-0.05	-0.29	0.20	0.05	0.03	-0.19	0.47	0.06	0.04	-0.18	0.69	0.07
300	-0.02	-0.21	0.20	0.04	-0.05	-0.23	0.21	0.04	-0.04	-0.24	0.23	0.05	0.01	-0.15	0.29	0.05	0.03	-0.15	0.41	0.05
310	0.00	-0.15	0.18	0.04	-0.05	-0.23	0.24	0.04	-0.04	-0.25	0.15	0.04	0.01	-0.15	0.25	0.04	0.04	-0.17	0.34	0.05
320	0.01	-0.16	0.26	0.04	-0.03	-0.20	0.17	0.04	-0.01	-0.35	0.22	0.04	0.01	-0.16	0.18	0.04	0.04	-0.13	0.27	0.04
330	0.03	-0.22	0.30	0.05	0.02	-0.16	0.36	0.05	0.01	-0.22	0.24	0.05	0.02	-0.13	0.21	0.04	0.02	-0.15	0.25	0.04
340	0.04	-0.20	0.33	0.05	0.02	-0.24	0.32	0.05	0.02	-0.20	0.24	0.05	0.02	-0.16	0.23	0.04	0.06	-0.10	0.29	0.04
350	0.03	-0.16	0.30	0.04	0.06	-0.13	0.36	0.05	0.02	-0.29	0.25	0.05	0.04	-0.17	0.24	0.04	0.05	-0.13	0.34	0.04
360	0.03	-0.17	0.30	0.04	0.06	-0.11	0.43	0.05	0.02	-0.23	0.22	0.04	0.05	-0.14	0.24	0.04	0.06	-0.15	0.22	0.04

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # S 17 MEAN	MIN	MAX	RMS	TAP # S 18 MEAN	MIN	MAX	RMS	TAP # S 19 MEAN	MIN	MAX	RMS	TAP # S 20 MEAN	MIN	MAX	RMS	TAP # S 21 MEAN	MIN	MAX	RMS
10	0.05	-0.11	0.23	0.03	0.05	-0.26	0.20	0.04	0.07	-0.10	0.26	0.04	0.08	-0.17	0.42	0.05	0.08	-0.17	0.27	0.04
20	0.05	-0.15	0.20	0.03	0.03	-0.27	0.20	0.04	0.07	-0.08	0.31	0.04	0.06	-0.10	0.35	0.05	0.09	-0.06	0.30	0.04
30	0.03	-0.16	0.19	0.04	0.02	-0.17	0.17	0.04	0.04	-0.12	0.22	0.04	0.02	-0.24	0.24	0.05	0.03	-0.22	0.23	0.04
40	0.00	-0.14	0.18	0.03	0.00	-0.20	0.17	0.04	0.01	-0.16	0.17	0.04	-0.04	-0.46	0.19	0.06	-0.01	-0.30	0.20	0.05
50	-0.04	-0.33	0.14	0.04	-0.04	-0.26	0.11	0.04	-0.04	-0.20	0.13	0.04	-0.14	-0.57	0.23	0.08	-0.08	-0.40	0.14	0.06
60	-0.06	-0.26	0.08	0.04	-0.08	-0.27	0.08	0.04	-0.06	-0.25	0.10	0.04	-0.17	-0.59	0.12	0.08	-0.10	-0.46	0.15	0.06
70	-0.10	-0.30	0.11	0.04	-0.11	-0.30	0.04	0.04	-0.10	-0.25	0.06	0.04	-0.21	-0.63	0.09	0.08	-0.16	-0.54	0.09	0.06
80	-0.11	-0.31	0.06	0.05	-0.14	-0.31	0.01	0.04	-0.13	-0.33	0.04	0.04	-0.24	-0.71	0.07	0.08	-0.18	-0.63	0.05	0.07
90	-0.12	-0.33	0.07	0.04	-0.15	-0.31	-0.01	0.04	-0.17	-0.35	0.00	0.04	-0.22	-0.60	0.03	0.07	-0.17	-0.49	0.09	0.06
100	-0.10	-0.32	0.38	0.06	-0.15	-0.38	0.10	0.04	-0.16	-0.42	0.08	0.05	-0.22	-0.70	0.06	0.07	-0.18	-0.47	0.15	0.06
110	-0.07	-0.31	0.53	0.08	-0.12	-0.37	0.12	0.05	-0.12	-0.34	0.13	0.05	-0.16	-0.49	0.36	0.08	-0.12	-0.39	0.23	0.07
120	-0.09	-0.43	0.23	0.06	-0.12	-0.35	0.09	0.05	-0.11	-0.29	0.10	0.04	-0.14	-0.68	0.32	0.07	-0.11	-0.44	0.23	0.06
130	-0.12	-0.28	0.15	0.04	-0.13	-0.28	0.07	0.04	-0.13	-0.28	0.04	0.04	-0.15	-0.38	0.12	0.05	-0.14	-0.31	0.06	0.04
140	-0.16	-0.38	0.14	0.05	-0.17	-0.44	0.02	0.04	-0.17	-0.47	0.03	0.05	-0.18	-0.43	0.01	0.05	-0.17	-0.51	0.04	0.05
150	-0.15	-0.34	0.08	0.04	-0.15	-0.38	0.05	0.04	-0.16	-0.41	0.03	0.05	-0.17	-0.51	0.07	0.05	-0.16	-0.45	0.03	0.05
160	-0.15	-0.37	0.16	0.04	-0.15	-0.36	0.03	0.04	-0.16	-0.37	0.09	0.05	-0.18	-0.47	0.05	0.05	-0.16	-0.46	0.02	0.05
170	-0.12	-0.37	0.18	0.05	-0.14	-0.33	0.05	0.04	-0.14	-0.35	0.03	0.04	-0.15	-0.48	0.03	0.04	-0.14	-0.40	0.06	0.04
180	-0.12	-0.32	0.21	0.04	-0.12	-0.29	0.08	0.04	-0.13	-0.40	0.08	0.04	-0.13	-0.42	0.02	0.04	-0.12	-0.37	0.02	0.04
190	-0.10	-0.27	0.27	0.04	-0.12	-0.28	0.32	0.04	-0.13	-0.28	0.10	0.04	-0.13	-0.27	0.03	0.03	-0.12	-0.31	0.03	0.03
200	-0.10	-0.37	0.48	0.07	-0.11	-0.44	0.47	0.06	-0.12	-0.33	0.22	0.05	-0.13	-0.35	0.05	0.04	-0.13	-0.30	0.08	0.04
210	-0.11	-0.39	0.56	0.07	-0.12	-0.47	0.32	0.06	-0.13	-0.33	0.13	0.05	-0.12	-0.36	0.07	0.04	-0.12	-0.34	0.07	0.04
220	-0.12	-0.35	0.20	0.05	-0.12	-0.36	0.25	0.06	-0.12	-0.32	0.13	0.04	-0.13	-0.36	0.06	0.04	-0.13	-0.30	0.13	0.04
230	-0.13	-0.29	0.07	0.04	-0.13	-0.28	0.08	0.04	-0.13	-0.25	0.02	0.03	-0.13	-0.32	0.04	0.04	-0.12	-0.27	0.04	0.04
240	-0.13	-0.26	0.06	0.03	-0.13	-0.26	0.03	0.03	-0.11	-0.26	0.03	0.03	-0.12	-0.25	0.03	0.03	-0.12	-0.26	0.04	0.03
250	-0.11	-0.33	0.07	0.04	-0.11	-0.27	0.08	0.04	-0.11	-0.25	0.06	0.04	-0.09	-0.28	0.07	0.03	-0.10	-0.26	0.03	0.03
260	-0.09	-0.30	0.12	0.04	-0.08	-0.26	0.23	0.04	-0.09	-0.28	0.12	0.04	-0.09	-0.28	0.07	0.04	-0.09	-0.22	0.06	0.03
270	-0.06	-0.37	0.20	0.06	-0.03	-0.33	0.33	0.07	-0.05	-0.28	0.17	0.05	-0.09	-0.26	0.09	0.03	-0.08	-0.26	0.08	0.04
280	-0.02	-0.30	0.27	0.05	-0.02	-0.28	0.33	0.06	-0.10	-0.36	0.16	0.05	-0.09	-0.24	0.08	0.03	-0.09	-0.29	0.05	0.03
290	-0.02	-0.22	0.21	0.04	-0.06	-0.31	0.16	0.05	-0.13	-0.44	0.22	0.05	-0.12	-0.27	0.00	0.04	-0.11	-0.28	0.05	0.04
300	0.00	-0.17	0.24	0.04	-0.04	-0.31	0.20	0.05	-0.09	-0.32	0.19	0.05	-0.10	-0.26	0.09	0.04	-0.09	-0.23	0.11	0.04
310	0.01	-0.16	0.20	0.04	-0.01	-0.31	0.23	0.05	-0.06	-0.34	0.17	0.05	-0.07	-0.24	0.11	0.04	-0.06	-0.24	0.13	0.04
320	0.00	-0.16	0.18	0.04	-0.01	-0.21	0.23	0.04	-0.01	-0.27	0.30	0.05	-0.03	-0.17	0.19	0.04	-0.02	-0.16	0.25	0.04
330	0.03	-0.18	0.26	0.04	0.03	-0.20	0.31	0.04	0.03	-0.23	0.33	0.05	0.01	-0.18	0.27	0.05	0.03	-0.13	0.30	0.05
340	0.05	-0.11	0.22	0.04	0.04	-0.14	0.28	0.05	0.03	-0.16	0.36	0.05	0.06	-0.14	0.31	0.05	0.05	-0.16	0.29	0.05
350	0.05	-0.10	0.23	0.04	0.05	-0.15	0.25	0.04	0.07	-0.14	0.39	0.05	0.07	-0.10	0.45	0.04	0.07	-0.12	0.24	0.04
360	0.05	-0.11	0.20	0.04	0.05	-0.19	0.27	0.04	0.08	-0.09	0.31	0.04	0.08	-0.08	0.39	0.04	0.08	-0.08	0.31	0.04

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # S 22 MEAN	MIN	MAX	RMS	TAP # S 23 MEAN	MIN	MAX	RMS	TAP # S 24 MEAN	MIN	MAX	RMS	TAP # S 25 MEAN	MIN	MAX	RMS	TAP # S 26 MEAN	MIN	MAX	RMS
10	0.07	-0.10	0.27	0.04	0.10	-0.18	0.52	0.07	0.11	-0.31	0.51	0.06	0.09	-0.16	0.47	0.05	0.08	-0.14	0.42	0.05
20	0.07	-0.09	0.26	0.04	0.10	-0.14	0.52	0.07	0.10	-0.10	0.44	0.05	0.09	-0.09	0.41	0.04	0.07	-0.11	0.32	0.04
30	0.05	-0.10	0.20	0.03	0.02	-0.41	0.41	0.07	0.05	-0.15	0.29	0.04	0.05	-0.10	0.32	0.04	0.05	-0.09	0.22	0.03
40	0.02	-0.14	0.19	0.03	-0.06	-0.60	0.23	0.07	0.02	-0.23	0.28	0.04	0.02	-0.17	0.23	0.04	0.02	-0.13	0.16	0.03
50	-0.02	-0.19	0.14	0.04	-0.21	-0.64	0.15	0.09	-0.03	-0.36	0.17	0.05	-0.02	-0.19	0.13	0.04	-0.01	-0.18	0.12	0.03
60	-0.04	-0.23	0.10	0.04	-0.26	-0.77	0.07	0.09	-0.05	-0.28	0.14	0.04	-0.05	-0.23	0.11	0.04	-0.04	-0.18	0.13	0.03
70	-0.09	-0.26	0.07	0.04	-0.33	-0.83	-0.03	0.08	-0.11	-0.38	0.08	0.05	-0.08	-0.28	0.09	0.04	-0.08	-0.22	0.06	0.03
80	-0.11	-0.30	0.06	0.04	-0.37	-0.90	0.01	0.10	-0.13	-0.47	0.12	0.05	-0.11	-0.33	0.06	0.04	-0.08	-0.24	0.06	0.04
90	-0.15	-0.43	0.03	0.05	-0.36	-0.87	-0.06	0.10	-0.17	-0.53	0.06	0.06	-0.15	-0.42	0.07	0.04	-0.11	-0.29	0.13	0.04
100	-0.15	-0.37	0.06	0.05	-0.31	-0.75	0.01	0.08	-0.20	-0.60	0.03	0.07	-0.16	-0.44	0.05	0.05	-0.11	-0.30	0.12	0.05
110	-0.11	-0.30	0.13	0.05	-0.23	-0.64	0.10	0.08	-0.17	-0.61	0.10	0.06	-0.12	-0.39	0.06	0.05	-0.09	-0.29	0.14	0.05
120	-0.10	-0.26	0.09	0.04	-0.20	-0.65	0.10	0.07	-0.15	-0.55	0.06	0.06	-0.12	-0.35	0.15	0.04	-0.10	-0.32	0.06	0.04
130	-0.13	-0.29	0.04	0.04	-0.17	-0.45	0.07	0.05	-0.15	-0.30	0.04	0.04	-0.13	-0.32	0.03	0.04	-0.13	-0.35	0.05	0.04
140	-0.17	-0.41	0.03	0.05	-0.21	-0.77	0.04	0.08	-0.17	-0.43	0.03	0.05	-0.17	-0.56	0.03	0.05	-0.18	-0.47	0.16	0.06
150	-0.17	-0.46	0.11	0.05	-0.20	-0.74	0.07	0.07	-0.18	-0.54	0.03	0.05	-0.18	-0.52	0.02	0.05	-0.21	-0.53	0.04	0.06
160	-0.17	-0.42	0.02	0.04	-0.18	-0.58	0.03	0.06	-0.17	-0.45	0.02	0.05	-0.17	-0.52	0.03	0.05	-0.18	-0.44	0.11	0.05
170	-0.13	-0.33	0.03	0.04	-0.17	-0.52	0.01	0.05	-0.15	-0.44	0.02	0.04	-0.15	-0.50	0.04	0.05	-0.19	-0.48	0.07	0.06
180	-0.12	-0.29	0.06	0.04	-0.14	-0.40	0.05	0.05	-0.14	-0.33	0.07	0.04	-0.13	-0.37	0.03	0.04	-0.13	-0.42	0.13	0.05
190	-0.11	-0.29	0.06	0.03	-0.14	-0.34	0.03	0.04	-0.12	-0.30	0.01	0.04	-0.13	-0.34	0.00	0.04	-0.11	-0.30	0.09	0.04
200	-0.12	-0.28	0.21	0.05	-0.13	-0.31	0.08	0.04	-0.13	-0.35	0.10	0.04	-0.14	-0.36	0.11	0.05	-0.12	-0.40	0.38	0.05
210	-0.12	-0.38	0.13	0.05	-0.12	-0.33	0.13	0.05	-0.15	-0.55	0.11	0.05	-0.14	-0.45	0.12	0.05	-0.11	-0.46	0.34	0.07
220	-0.12	-0.34	0.10	0.04	-0.13	-0.35	0.10	0.04	-0.12	-0.41	0.09	0.04	-0.15	-0.50	0.03	0.05	-0.10	-0.52	0.25	0.07
230	-0.13	-0.28	0.05	0.04	-0.13	-0.31	0.05	0.04	-0.13	-0.27	0.02	0.03	-0.12	-0.29	0.04	0.04	-0.13	-0.27	0.06	0.03
240	-0.11	-0.25	0.03	0.03	-0.11	-0.28	0.04	0.04	-0.11	-0.24	0.05	0.03	-0.11	-0.28	0.04	0.03	-0.11	-0.22	0.04	0.03
250	-0.09	-0.22	0.03	0.03	-0.10	-0.27	0.06	0.04	-0.09	-0.23	0.05	0.04	-0.09	-0.30	0.08	0.04	-0.10	-0.22	0.07	0.03
260	-0.08	-0.24	0.13	0.04	-0.08	-0.22	0.11	0.04	-0.07	-0.26	0.12	0.04	-0.07	-0.39	0.23	0.04	-0.08	-0.31	0.13	0.04
270	-0.06	-0.26	0.12	0.04	-0.07	-0.27	0.10	0.04	-0.05	-0.28	0.12	0.04	-0.07	-0.65	0.25	0.08	-0.13	-0.60	0.17	0.08
280	-0.06	-0.32	0.16	0.05	-0.10	-0.30	0.11	0.04	-0.06	-0.33	0.17	0.05	-0.12	-0.58	0.24	0.09	-0.13	-0.68	0.13	0.09
290	-0.09	-0.30	0.17	0.05	-0.12	-0.30	0.08	0.04	-0.08	-0.38	0.18	0.05	-0.20	-0.67	0.12	0.08	-0.20	-0.85	0.16	0.10
300	-0.07	-0.36	0.17	0.05	-0.09	-0.32	0.12	0.04	-0.06	-0.31	0.19	0.05	-0.12	-0.53	0.48	0.08	-0.13	-0.70	0.23	0.10
310	-0.05	-0.28	0.17	0.05	-0.07	-0.25	0.21	0.04	-0.02	-0.29	0.27	0.05	-0.09	-0.51	0.33	0.08	-0.07	-0.47	0.48	0.10
320	-0.02	-0.24	0.18	0.05	-0.03	-0.30	0.35	0.06	-0.01	-0.23	0.52	0.06	-0.04	-0.52	0.37	0.07	-0.03	-0.44	0.36	0.08
330	0.02	-0.19	0.26	0.05	0.04	-0.29	0.42	0.07	0.06	-0.22	0.50	0.07	0.01	-0.41	0.53	0.08	0.02	-0.28	0.41	0.07
340	0.04	-0.13	0.28	0.05	0.06	-0.18	0.46	0.07	0.08	-0.25	0.60	0.07	0.08	-0.19	0.58	0.07	0.07	-0.25	0.50	0.07
350	0.07	-0.09	0.29	0.04	0.12	-0.10	0.62	0.07	0.13	-0.11	0.63	0.07	0.13	-0.16	0.62	0.07	0.10	-0.15	0.38	0.06
360	0.08	-0.10	0.31	0.04	0.12	-0.10	0.61	0.06	0.13	-0.18	0.67	0.06	0.11	-0.08	0.44	0.06	0.08	-0.18	0.33	0.05

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # S 27 MEAN	MIN	MAX	RMS	TAP # S 28 MEAN	MIN	MAX	RMS	TAP # S 29 MEAN	MIN	MAX	RMS	TAP # S 30 MEAN	MIN	MAX	RMS	TAP # S 31 MEAN	MIN	MAX	RMS
10	0.10	-0.29	0.58	0.06	0.09	-0.35	0.55	0.07	0.10	-0.15	0.42	0.06	0.06	-0.19	0.33	0.05	0.07	-0.20	0.36	0.05
20	0.09	-0.13	0.44	0.05	0.08	-0.25	0.47	0.06	0.11	-0.19	0.51	0.06	0.05	-0.14	0.32	0.04	0.07	-0.14	0.32	0.05
30	0.06	-0.14	0.24	0.04	0.02	-0.64	0.39	0.07	0.05	-0.16	0.34	0.05	0.03	-0.15	0.21	0.04	0.03	-0.12	0.28	0.04
40	0.04	-0.14	0.23	0.04	-0.05	-0.63	0.29	0.08	0.02	-0.33	0.26	0.06	0.00	-0.18	0.14	0.03	0.00	-0.17	0.22	0.04
50	-0.01	-0.26	0.16	0.04	-0.22	-0.76	0.13	0.10	-0.06	-0.52	0.21	0.08	-0.03	-0.21	0.14	0.04	-0.02	-0.28	0.16	0.04
60	-0.05	-0.34	0.14	0.04	-0.26	-0.96	0.14	0.10	-0.12	-0.50	0.20	0.08	-0.05	-0.24	0.11	0.04	-0.07	-0.33	0.11	0.04
70	-0.10	-0.35	0.10	0.04	-0.30	-1.02	0.13	0.10	-0.16	-0.49	0.07	0.07	-0.09	-0.28	0.07	0.04	-0.11	-0.30	0.06	0.04
80	-0.12	-0.34	0.14	0.05	-0.36	-0.98	0.07	0.10	-0.21	-0.61	0.07	0.08	-0.12	-0.29	0.07	0.04	-0.15	-0.39	0.07	0.05
90	-0.14	-0.40	0.29	0.06	-0.26	-0.74	0.67	0.09	-0.22	-0.57	0.06	0.07	-0.15	-0.46	0.03	0.04	-0.17	-0.36	0.03	0.05
100	-0.09	-0.38	0.37	0.08	-0.15	-0.69	0.70	0.17	-0.17	-0.55	0.14	0.07	-0.15	-0.42	0.09	0.05	-0.15	-0.36	0.27	0.05
110	-0.07	-0.37	0.36	0.08	-0.06	-0.62	0.62	0.15	-0.12	-0.35	0.18	0.05	-0.13	-0.35	0.14	0.05	-0.13	-0.37	0.37	0.06
120	-0.11	-0.35	0.24	0.06	-0.09	-0.46	0.50	0.09	-0.12	-0.34	0.20	0.05	-0.13	-0.33	0.05	0.04	-0.14	-0.34	0.19	0.05
130	-0.14	-0.33	0.12	0.04	-0.14	-0.41	0.19	0.05	-0.14	-0.28	0.08	0.04	-0.16	-0.33	0.04	0.04	-0.16	-0.28	0.08	0.04
140	-0.18	-0.57	0.06	0.06	-0.19	-0.61	0.20	0.06	-0.17	-0.38	0.00	0.04	-0.21	-0.43	-0.02	0.04	-0.21	-0.46	-0.04	0.05
150	-0.21	-0.61	0.06	0.06	-0.23	-0.75	0.03	0.07	-0.20	-0.51	-0.01	0.05	-0.21	-0.48	-0.03	0.05	-0.21	-0.48	-0.02	0.05
160	-0.20	-0.60	0.00	0.05	-0.21	-0.68	0.07	0.06	-0.19	-0.37	0.01	0.04	-0.18	-0.45	0.04	0.05	-0.18	-0.44	0.04	0.04
170	-0.19	-0.52	0.04	0.06	-0.19	-0.62	0.01	0.06	-0.17	-0.42	-0.03	0.04	-0.18	-0.39	-0.01	0.04	-0.18	-0.41	0.01	0.04
180	-0.16	-0.45	0.01	0.05	-0.15	-0.43	0.03	0.04	-0.16	-0.35	-0.02	0.04	-0.16	-0.34	-0.02	0.04	-0.14	-0.35	0.03	0.04
190	-0.13	-0.28	0.10	0.04	-0.13	-0.32	0.06	0.04	-0.13	-0.28	0.01	0.03	-0.15	-0.34	0.01	0.03	-0.14	-0.29	0.01	0.04
200	-0.14	-0.42	0.09	0.05	-0.15	-0.41	0.08	0.04	-0.13	-0.33	0.03	0.04	-0.15	-0.37	0.15	0.04	-0.14	-0.34	0.09	0.04
210	-0.13	-0.55	0.30	0.06	-0.15	-0.51	0.09	0.05	-0.13	-0.35	0.07	0.05	-0.15	-0.39	0.13	0.05	-0.14	-0.32	0.17	0.05
220	-0.13	-0.37	0.20	0.05	-0.12	-0.43	0.09	0.05	-0.16	-0.42	0.07	0.05	-0.15	-0.40	0.12	0.05	-0.14	-0.32	0.12	0.04
230	-0.13	-0.34	0.04	0.04	-0.13	-0.33	0.07	0.04	-0.12	-0.32	0.07	0.04	-0.14	-0.28	0.02	0.03	-0.12	-0.27	0.02	0.03
240	-0.10	-0.29	0.09	0.04	-0.12	-0.25	0.03	0.03	-0.11	-0.25	0.05	0.03	-0.12	-0.27	0.01	0.03	-0.12	-0.25	0.03	0.03
250	-0.09	-0.22	0.04	0.03	-0.09	-0.27	0.04	0.03	-0.09	-0.21	0.06	0.03	-0.10	-0.24	0.02	0.03	-0.10	-0.24	0.03	0.03
260	-0.08	-0.33	0.12	0.04	-0.08	-0.29	0.06	0.03	-0.07	-0.25	0.11	0.04	-0.10	-0.32	0.11	0.04	-0.10	-0.26	0.08	0.03
270	-0.05	-0.47	0.17	0.05	-0.07	-0.31	0.12	0.04	-0.05	-0.21	0.10	0.04	-0.06	-0.46	0.18	0.05	-0.06	-0.29	0.18	0.04
280	-0.05	-0.28	0.19	0.04	-0.06	-0.24	0.13	0.04	-0.06	-0.23	0.11	0.04	-0.06	-0.27	0.20	0.05	-0.07	-0.25	0.15	0.05
290	-0.06	-0.26	0.15	0.04	-0.09	-0.28	0.10	0.04	-0.10	-0.24	0.09	0.04	-0.09	-0.43	0.17	0.06	-0.11	-0.32	0.15	0.05
300	-0.04	-0.26	0.29	0.05	-0.08	-0.27	0.21	0.04	-0.07	-0.32	0.22	0.05	-0.06	-0.36	0.29	0.07	-0.09	-0.34	0.20	0.06
310	0.00	-0.25	0.38	0.06	-0.04	-0.29	0.29	0.04	-0.06	-0.22	0.21	0.04	-0.04	-0.35	0.25	0.06	-0.04	-0.29	0.33	0.06
320	0.04	-0.26	0.40	0.06	0.00	-0.31	0.55	0.06	-0.02	-0.21	0.29	0.04	-0.02	-0.27	0.20	0.05	-0.03	-0.21	0.28	0.05
330	0.05	-0.28	0.69	0.07	0.02	-0.33	0.55	0.08	0.01	-0.33	0.42	0.06	0.00	-0.36	0.35	0.06	-0.01	-0.23	0.34	0.05
340	0.06	-0.28	0.57	0.06	0.06	-0.28	0.59	0.07	0.06	-0.25	0.49	0.06	0.03	-0.32	0.34	0.06	0.03	-0.20	0.32	0.06
350	0.12	-0.17	0.48	0.06	0.08	-0.20	0.37	0.06	0.10	-0.24	0.36	0.06	0.07	-0.18	0.37	0.06	0.09	-0.17	0.37	0.06
360	0.10	-0.34	0.49	0.06	0.11	-0.25	0.46	0.06	0.10	-0.19	0.48	0.06	0.07	-0.26	0.33	0.06	0.09	-0.19	0.38	0.06

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # S 32 MEAN	MIN	MAX	RMS	TAP # S 33 MEAN	MIN	MAX	RMS	TAP # S 34 MEAN	MIN	MAX	RMS	TAP # S 35 MEAN	MIN	MAX	RMS	TAP # S 36 MEAN	MIN	MAX	RMS
10	0.04	-0.20	0.29	0.05	0.06	-0.13	0.50	0.06	-0.02	-0.29	0.18	0.05	0.01	-0.18	0.17	0.04	-0.05	-0.32	0.15	0.04
20	0.02	-0.20	0.28	0.04	0.06	-0.17	0.45	0.05	-0.02	-0.34	0.14	0.05	0.00	-0.25	0.16	0.04	-0.03	-0.25	0.17	0.05
30	0.01	-0.16	0.20	0.04	0.04	-0.14	0.32	0.05	-0.01	-0.18	0.15	0.04	0.01	-0.14	0.16	0.04	-0.01	-0.20	0.14	0.04
40	-0.02	-0.19	0.12	0.03	0.01	-0.18	0.20	0.04	0.02	-0.17	0.18	0.03	0.02	-0.20	0.20	0.04	-0.03	-0.34	0.18	0.04
50	-0.04	-0.18	0.12	0.04	-0.02	-0.18	0.15	0.04	0.01	-0.18	0.16	0.04	-0.02	-0.30	0.16	0.04	-0.05	-0.28	0.15	0.04
60	-0.05	-0.21	0.11	0.03	-0.04	-0.20	0.12	0.04	-0.01	-0.23	0.18	0.04	-0.03	-0.31	0.16	0.04	-0.04	-0.23	0.11	0.04
70	-0.09	-0.23	0.03	0.03	-0.08	-0.33	0.12	0.04	-0.05	-0.22	0.10	0.04	-0.06	-0.41	0.23	0.05	-0.08	-0.22	0.09	0.04
80	-0.11	-0.27	0.02	0.04	-0.10	-0.34	0.06	0.04	-0.08	-0.27	0.11	0.04	-0.06	-0.40	0.22	0.05	-0.10	-0.29	0.10	0.05
90	-0.14	-0.35	0.04	0.04	-0.14	-0.38	0.12	0.05	-0.09	-0.38	0.11	0.05	-0.10	-0.52	0.18	0.06	-0.19	-0.60	0.03	0.07
100	-0.15	-0.43	0.10	0.04	-0.13	-0.44	0.22	0.05	-0.10	-0.31	0.09	0.04	-0.14	-0.38	0.10	0.05	-0.24	-0.55	-0.01	0.06
110	-0.13	-0.36	0.04	0.04	-0.11	-0.30	0.11	0.04	-0.11	-0.32	0.07	0.04	-0.15	-0.43	0.08	0.05	-0.21	-0.60	0.00	0.05
120	-0.13	-0.33	0.05	0.04	-0.12	-0.29	0.03	0.04	-0.13	-0.42	0.03	0.04	-0.17	-0.41	0.05	0.04	-0.22	-0.40	-0.07	0.04
130	-0.14	-0.29	-0.01	0.03	-0.14	-0.29	0.00	0.04	-0.15	-0.38	0.04	0.04	-0.19	-0.51	0.06	0.05	-0.24	-0.55	0.05	0.06
140	-0.21	-0.51	0.02	0.05	-0.19	-0.43	-0.01	0.04	-0.18	-0.52	0.02	0.05	-0.24	-0.55	0.00	0.06	-0.30	-0.97	0.11	0.09
150	-0.19	-0.44	-0.03	0.04	-0.18	-0.48	-0.01	0.05	-0.16	-0.40	0.07	0.05	-0.20	-0.51	0.02	0.05	-0.24	-0.75	0.07	0.08
160	-0.16	-0.40	0.02	0.04	-0.16	-0.42	0.00	0.04	-0.14	-0.36	0.07	0.04	-0.17	-0.48	0.05	0.05	-0.21	-0.73	0.05	0.07
170	-0.16	-0.41	0.02	0.04	-0.15	-0.42	0.00	0.04	-0.15	-0.40	0.04	0.04	-0.18	-0.43	0.04	0.05	-0.19	-0.48	0.06	0.06
180	-0.14	-0.37	0.03	0.03	-0.14	-0.34	0.05	0.04	-0.14	-0.47	0.15	0.04	-0.16	-0.36	0.03	0.04	-0.17	-0.49	0.05	0.05
190	-0.14	-0.34	0.01	0.04	-0.15	-0.37	-0.01	0.04	-0.12	-0.34	0.07	0.04	-0.16	-0.36	0.02	0.04	-0.16	-0.32	-0.01	0.04
200	-0.15	-0.41	0.07	0.05	-0.15	-0.38	0.12	0.05	-0.15	-0.49	0.26	0.05	-0.16	-0.34	0.11	0.05	-0.20	-0.51	0.17	0.07
210	-0.18	-0.46	0.23	0.06	-0.20	-0.48	0.01	0.05	-0.18	-0.50	0.23	0.06	-0.20	-0.47	0.10	0.05	-0.23	-0.58	0.12	0.07
220	-0.15	-0.39	0.21	0.05	-0.19	-0.47	-0.01	0.05	-0.19	-0.53	0.05	0.05	-0.22	-0.42	0.03	0.05	-0.23	-0.49	-0.02	0.05
230	-0.14	-0.33	0.06	0.04	-0.15	-0.36	0.00	0.04	-0.18	-0.43	-0.03	0.04	-0.18	-0.37	-0.02	0.04	-0.18	-0.35	0.00	0.04
240	-0.14	-0.28	0.02	0.03	-0.12	-0.27	0.01	0.03	-0.16	-0.36	-0.01	0.04	-0.16	-0.32	0.00	0.04	-0.13	-0.29	0.00	0.04
250	-0.11	-0.26	0.07	0.04	-0.11	-0.24	0.09	0.04	-0.12	-0.35	0.07	0.04	-0.12	-0.26	0.02	0.03	-0.11	-0.24	0.01	0.03
260	-0.08	-0.26	0.22	0.04	-0.10	-0.25	0.15	0.04	-0.11	-0.29	0.06	0.04	-0.10	-0.25	0.09	0.03	-0.11	-0.23	0.02	0.03
270	0.00	-0.37	0.38	0.07	-0.01	-0.21	0.37	0.06	-0.05	-0.36	0.36	0.06	-0.07	-0.45	0.22	0.05	-0.10	-0.32	0.14	0.04
280	0.03	-0.19	0.47	0.06	0.07	-0.16	0.39	0.06	0.09	-0.17	0.48	0.07	0.05	-0.55	0.52	0.08	-0.10	-0.62	0.36	0.08
290	0.01	-0.18	0.44	0.05	0.09	-0.16	0.39	0.06	0.09	-0.13	0.52	0.06	0.05	-0.32	0.47	0.07	-0.10	-0.49	0.38	0.09
300	0.02	-0.16	0.41	0.05	0.09	-0.10	0.43	0.05	0.09	-0.19	0.46	0.07	0.04	-0.28	0.53	0.07	-0.12	-0.58	0.35	0.08
310	0.04	-0.13	0.49	0.06	0.09	-0.10	0.51	0.06	0.09	-0.15	0.42	0.06	0.05	-0.48	0.48	0.07	-0.11	-0.46	0.35	0.06
320	0.05	-0.19	0.46	0.05	0.09	-0.12	0.39	0.05	0.08	-0.21	0.35	0.06	0.05	-0.22	0.39	0.05	-0.12	-0.44	0.19	0.06
330	0.05	-0.18	0.36	0.05	0.09	-0.19	0.47	0.05	0.07	-0.28	0.43	0.06	0.03	-0.28	0.33	0.06	-0.11	-0.42	0.26	0.05
340	0.06	-0.15	0.47	0.05	0.08	-0.18	0.37	0.05	0.06	-0.48	0.42	0.07	0.01	-0.23	0.31	0.06	-0.11	-0.39	0.33	0.06
350	0.08	-0.17	0.47	0.07	0.12	-0.11	0.78	0.08	0.00	-0.36	0.29	0.07	-0.01	-0.31	0.22	0.05	-0.09	-0.38	0.17	0.05
360	0.07	-0.17	0.46	0.05	0.09	-0.19	0.44	0.06	0.00	-0.34	0.22	0.06	0.01	-0.22	0.17	0.04	-0.06	-0.34	0.13	0.05

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # S 37 MEAN	MIN	MAX	RMS	TAP # S 38 MEAN	MIN	MAX	RMS	TAP # T 1 MEAN	MIN	MAX	RMS	TAP # T 2 MEAN	MIN	MAX	RMS	TAP # T 3 MEAN	MIN	MAX	RMS
10	0.01	-0.32	0.41	0.06	-0.06	-0.42	0.14	0.05	0.01	-0.34	0.19	0.05	0.07	-0.12	0.27	0.04	0.09	-0.12	0.31	0.04
20	-0.01	-0.29	0.28	0.06	-0.04	-0.83	0.13	0.06	0.01	-0.34	0.22	0.05	0.06	-0.13	0.27	0.04	0.08	-0.07	0.30	0.04
30	-0.01	-0.22	0.36	0.04	-0.02	-0.30	0.20	0.05	-0.01	-0.33	0.15	0.05	0.03	-0.21	0.22	0.04	0.06	-0.09	0.41	0.04
40	-0.04	-0.24	0.14	0.04	-0.04	-0.39	0.17	0.05	-0.01	-0.47	0.18	0.04	0.02	-0.17	0.28	0.04	0.05	-0.10	0.23	0.04
50	-0.04	-0.30	0.15	0.04	-0.06	-0.35	0.27	0.05	-0.04	-0.72	0.31	0.07	-0.02	-0.34	0.32	0.06	0.05	-0.15	0.34	0.06
60	-0.03	-0.29	0.15	0.04	-0.05	-0.32	0.21	0.05	-0.04	-0.63	0.26	0.07	-0.04	-0.37	0.20	0.06	0.04	-0.21	0.33	0.05
70	-0.08	-0.50	0.07	0.05	-0.08	-0.50	0.13	0.06	-0.07	-0.60	0.26	0.08	-0.08	-0.37	0.21	0.06	0.01	-0.24	0.24	0.05
80	-0.11	-0.49	0.13	0.06	-0.10	-0.45	0.19	0.06	-0.09	-0.69	0.22	0.07	-0.10	-0.38	0.16	0.06	0.02	-0.17	0.25	0.05
90	-0.20	-1.02	0.12	0.09	-0.16	-0.99	0.42	0.11	-0.12	-0.86	0.34	0.09	-0.15	-0.54	0.15	0.07	-0.07	-0.33	0.23	0.06
100	-0.26	-1.20	0.05	0.10	-0.23	-0.81	0.48	0.12	-0.12	-0.92	0.23	0.08	-0.14	-0.43	0.07	0.05	-0.09	-0.35	0.19	0.06
110	-0.27	-1.08	0.05	0.11	-0.14	-0.82	0.30	0.11	-0.08	-0.34	0.20	0.05	-0.10	-0.32	0.19	0.05	-0.06	-0.41	0.26	0.06
120	-0.27	-0.97	0.03	0.09	-0.17	-0.60	0.18	0.09	-0.06	-0.25	0.20	0.05	-0.06	-0.26	0.13	0.05	-0.05	-0.34	0.27	0.05
130	-0.25	-0.72	0.09	0.07	-0.10	-0.60	0.38	0.09	-0.08	-0.27	0.11	0.04	-0.10	-0.28	0.16	0.04	-0.08	-0.26	0.24	0.04
140	-0.36	-0.94	0.00	0.09	-0.15	-0.90	0.37	0.12	-0.12	-0.73	0.17	0.06	-0.13	-0.40	0.20	0.05	-0.13	-0.42	0.12	0.05
150	-0.31	-1.19	0.00	0.10	-0.17	-1.23	0.33	0.16	-0.12	-0.68	0.13	0.06	-0.13	-0.59	0.11	0.06	-0.13	-0.43	0.05	0.05
160	-0.28	-0.80	-0.04	0.08	-0.13	-1.04	0.34	0.12	-0.11	-0.39	0.23	0.05	-0.12	-0.35	0.08	0.05	-0.14	-0.36	0.05	0.04
170	-0.25	-0.94	-0.01	0.07	-0.10	-0.84	0.34	0.08	-0.09	-0.36	0.11	0.04	-0.11	-0.35	0.12	0.04	-0.12	-0.46	0.13	0.04
180	-0.21	-0.60	-0.02	0.06	-0.08	-0.41	0.22	0.05	-0.10	-0.29	0.13	0.04	-0.11	-0.39	0.08	0.04	-0.11	-0.40	0.12	0.04
190	-0.18	-0.44	-0.03	0.04	-0.12	-0.40	0.15	0.05	-0.09	-0.31	0.15	0.04	-0.10	-0.25	0.09	0.04	-0.12	-0.33	0.25	0.04
200	-0.22	-0.65	0.06	0.06	-0.18	-0.60	0.12	0.07	-0.09	-0.32	0.18	0.05	-0.09	-0.35	0.17	0.05	-0.11	-0.52	0.19	0.06
210	-0.24	-0.79	0.03	0.07	-0.18	-0.66	0.25	0.08	-0.12	-0.44	0.23	0.06	-0.11	-0.34	0.22	0.06	-0.13	-0.61	0.25	0.06
220	-0.20	-0.55	0.03	0.05	-0.17	-0.59	0.23	0.06	-0.12	-0.36	0.10	0.04	-0.11	-0.32	0.08	0.04	-0.13	-0.42	0.07	0.05
230	-0.16	-0.35	0.01	0.04	-0.17	-0.37	0.08	0.04	-0.13	-0.32	0.05	0.04	-0.11	-0.32	0.03	0.04	-0.11	-0.28	0.09	0.04
240	-0.15	-0.34	0.04	0.04	-0.15	-0.43	0.05	0.05	-0.10	-0.27	0.06	0.04	-0.12	-0.31	0.09	0.04	-0.10	-0.28	0.07	0.04
250	-0.13	-0.25	0.00	0.03	-0.12	-0.31	0.04	0.03	-0.14	-0.45	0.11	0.05	-0.12	-0.32	0.11	0.05	-0.12	-0.51	0.07	0.05
260	-0.09	-0.23	0.04	0.03	-0.10	-0.27	0.03	0.03	-0.15	-0.63	0.14	0.06	-0.11	-0.46	0.16	0.05	-0.13	-0.65	0.07	0.06
270	-0.08	-0.25	0.22	0.04	-0.17	-0.63	0.03	0.06	-0.20	-0.84	0.09	0.08	-0.13	-0.44	0.15	0.06	-0.22	-0.77	0.06	0.08
280	-0.05	-0.30	0.32	0.07	-0.47	-1.30	-0.17	0.11	-0.19	-0.53	0.02	0.06	-0.10	-0.42	0.14	0.06	-0.22	-0.70	0.16	0.10
290	-0.08	-0.33	0.36	0.07	-0.53	-1.22	-0.19	0.11	-0.14	-0.55	0.13	0.05	-0.07	-0.34	0.13	0.05	-0.16	-0.60	0.17	0.07
300	-0.09	-0.39	0.24	0.07	-0.53	-1.65	-0.17	0.11	-0.09	-0.38	0.14	0.05	-0.04	-0.21	0.16	0.04	-0.10	-0.47	0.20	0.07
310	-0.10	-0.37	0.26	0.07	-0.51	-1.43	-0.13	0.11	-0.06	-0.34	0.14	0.05	-0.02	-0.23	0.17	0.04	-0.07	-0.39	0.21	0.06
320	-0.10	-0.36	0.27	0.06	-0.46	-1.37	-0.17	0.10	-0.04	-0.40	0.20	0.05	0.01	-0.24	0.22	0.04	-0.03	-0.31	0.20	0.06
330	-0.10	-0.29	0.14	0.05	-0.42	-1.03	-0.12	0.09	-0.03	-0.35	0.17	0.05	0.04	-0.21	0.26	0.04	0.02	-0.21	0.29	0.05
340	-0.08	-0.31	0.22	0.06	-0.35	-1.13	-0.02	0.09	-0.01	-0.31	0.22	0.05	0.05	-0.13	0.26	0.04	0.05	-0.24	0.34	0.04
350	-0.04	-0.31	0.20	0.05	-0.25	-0.70	0.06	0.08	-0.02	-0.32	0.24	0.06	0.07	-0.12	0.27	0.04	0.07	-0.16	0.29	0.05
360	0.01	-0.22	0.36	0.05	-0.12	-0.71	0.14	0.08	0.00	-0.32	0.16	0.05	0.07	-0.08	0.28	0.04	0.08	-0.08	0.29	0.04

MARKETPLACE CENTER - BOSTON

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # T 4 MEAN	MIN	MAX	RMS	TAP # T 5 MEAN	MIN	MAX	RMS	TAP # T 6 MEAN	MIN	MAX	RMS	TAP # T 7 MEAN	MIN	MAX	RMS	TAP # 0 MEAN	MIN	MAX	RMS
10	0.07	-0.19	0.30	0.04	0.09	-0.14	0.33	0.04	0.14	-0.08	0.54	0.07	0.01	-0.20	0.33	0.06	0.00	0.00	0.00	0.00
20	0.06	-0.19	0.34	0.04	0.08	-0.09	0.32	0.04	0.12	-0.15	0.54	0.06	0.01	-0.19	0.27	0.05	0.00	0.00	0.00	0.00
30	0.03	-0.17	0.30	0.04	0.06	-0.08	0.37	0.04	0.07	-0.11	0.38	0.05	0.02	-0.18	0.34	0.05	0.00	0.00	0.00	0.00
40	0.00	-0.24	0.23	0.04	0.04	-0.16	0.29	0.04	0.04	-0.11	0.29	0.05	0.03	-0.15	0.41	0.04	0.00	0.00	0.00	0.00
50	-0.05	-0.45	0.23	0.07	0.02	-0.20	0.39	0.06	0.01	-0.21	0.18	0.04	0.05	-0.15	0.29	0.04	0.00	0.00	0.00	0.00
60	-0.07	-0.43	0.16	0.07	0.01	-0.26	0.28	0.06	-0.04	-0.28	0.14	0.04	0.03	-0.15	0.23	0.04	0.00	0.00	0.00	0.00
70	-0.10	-0.39	0.23	0.06	-0.05	-0.27	0.21	0.05	-0.09	-0.28	0.07	0.04	-0.02	-0.22	0.20	0.04	0.00	0.00	0.00	0.00
80	-0.12	-0.45	0.11	0.07	-0.09	-0.40	0.11	0.06	-0.14	-0.38	0.14	0.05	-0.07	-0.40	0.19	0.05	0.00	0.00	0.00	0.00
90	-0.20	-0.56	0.06	0.07	-0.14	-0.40	0.16	0.06	-0.14	-0.36	0.14	0.05	-0.11	-0.96	0.20	0.07	0.00	0.00	0.00	0.00
100	-0.16	-0.50	0.08	0.06	-0.14	-0.44	0.19	0.06	-0.12	-0.44	0.25	0.06	-0.16	-1.14	0.12	0.09	0.00	0.00	0.00	0.00
110	-0.11	-0.33	0.10	0.05	-0.10	-0.37	0.27	0.06	-0.13	-0.48	0.17	0.06	-0.14	-0.89	0.14	0.07	0.00	0.00	0.00	0.00
120	-0.08	-0.30	0.18	0.05	-0.09	-0.32	0.25	0.06	-0.16	-0.61	0.04	0.06	-0.15	-0.50	0.02	0.05	0.00	0.00	0.00	0.00
130	-0.11	-0.32	0.08	0.04	-0.11	-0.33	0.24	0.05	-0.17	-0.47	0.01	0.04	-0.17	-0.47	0.02	0.05	0.00	0.00	0.00	0.00
140	-0.14	-0.63	0.30	0.06	-0.14	-0.44	0.10	0.05	-0.24	-0.81	0.04	0.06	-0.25	-0.61	0.04	0.06	0.00	0.00	0.00	0.00
150	-0.15	-0.55	0.04	0.06	-0.15	-0.81	0.03	0.05	-0.25	-0.82	-0.02	0.06	-0.24	-0.66	-0.02	0.06	0.00	0.00	0.00	0.00
160	-0.13	-0.41	0.08	0.05	-0.13	-0.36	0.07	0.04	-0.25	-0.94	-0.02	0.06	-0.22	-0.53	-0.02	0.05	0.00	0.00	0.00	0.00
170	-0.13	-0.36	0.10	0.05	-0.12	-0.44	0.07	0.04	-0.23	-0.70	-0.02	0.06	-0.22	-0.56	0.01	0.06	0.00	0.00	0.00	0.00
180	-0.10	-0.30	0.18	0.04	-0.12	-0.36	0.04	0.04	-0.23	-0.66	-0.05	0.06	-0.18	-0.44	-0.03	0.04	0.00	0.00	0.00	0.00
190	-0.12	-0.25	0.08	0.04	-0.11	-0.30	0.06	0.03	-0.15	-0.42	-0.02	0.04	-0.14	-0.37	0.05	0.04	0.00	0.00	0.00	0.00
200	-0.10	-0.40	0.16	0.05	-0.14	-0.48	0.19	0.05	-0.14	-0.40	0.02	0.04	-0.15	-0.38	0.14	0.05	0.00	0.00	0.00	0.00
210	-0.11	-0.45	0.15	0.06	-0.13	-0.55	0.21	0.06	-0.15	-0.46	0.07	0.05	-0.13	-0.41	0.22	0.06	0.00	0.00	0.00	0.00
220	-0.12	-0.33	0.14	0.05	-0.11	-0.43	0.16	0.05	-0.15	-0.56	0.01	0.04	-0.12	-0.35	0.15	0.05	0.00	0.00	0.00	0.00
230	-0.12	-0.29	0.05	0.04	-0.11	-0.28	0.09	0.03	-0.14	-0.31	0.02	0.04	-0.12	-0.30	0.06	0.04	0.00	0.00	0.00	0.00
240	-0.12	-0.24	0.06	0.03	-0.10	-0.24	0.07	0.03	-0.12	-0.29	0.06	0.04	-0.10	-0.24	0.12	0.04	0.00	0.00	0.00	0.00
250	-0.06	-0.23	0.14	0.04	-0.12	-0.28	0.10	0.04	-0.08	-0.22	0.08	0.03	-0.10	-0.27	0.07	0.04	0.00	0.00	0.00	0.00
260	-0.08	-0.26	0.12	0.04	-0.08	-0.30	0.09	0.04	-0.09	-0.27	0.05	0.03	-0.09	-0.24	0.16	0.04	0.00	0.00	0.00	0.00
270	-0.03	-0.35	0.24	0.05	-0.08	-0.32	0.15	0.05	-0.06	-0.39	0.17	0.05	-0.01	-0.31	0.41	0.07	0.00	0.00	0.00	0.00
280	-0.03	-0.35	0.16	0.05	-0.11	-0.32	0.14	0.05	-0.05	-0.32	0.15	0.05	0.14	-0.19	0.58	0.08	0.00	0.00	0.00	0.00
290	-0.07	-0.37	0.20	0.07	-0.13	-0.38	0.13	0.05	-0.08	-0.28	0.22	0.05	0.14	-0.21	0.56	0.08	0.00	0.00	0.00	0.00
300	-0.04	-0.34	0.20	0.06	-0.09	-0.35	0.17	0.06	-0.05	-0.30	0.23	0.05	0.14	-0.13	0.58	0.08	0.00	0.00	0.00	0.00
310	-0.02	-0.40	0.24	0.05	-0.06	-0.29	0.22	0.05	-0.01	-0.25	0.44	0.06	0.14	-0.09	0.57	0.07	0.00	0.00	0.00	0.00
320	0.00	-0.21	0.20	0.05	-0.01	-0.21	0.23	0.05	0.03	-0.24	0.50	0.07	0.15	-0.15	0.75	0.08	0.00	0.00	0.00	0.00
330	0.05	-0.18	0.31	0.05	0.05	-0.19	0.34	0.06	0.06	-0.27	0.52	0.08	0.13	-0.13	0.62	0.08	0.00	0.00	0.00	0.00
340	0.07	-0.12	0.22	0.05	0.07	-0.22	0.34	0.05	0.11	-0.19	0.57	0.08	0.13	-0.12	0.69	0.07	0.00	0.00	0.00	0.00
350	0.10	-0.06	0.30	0.04	0.10	-0.10	0.40	0.05	0.14	-0.19	0.63	0.08	0.10	-0.21	0.46	0.06	0.00	0.00	0.00	0.00
360	0.07	-0.13	0.29	0.04	0.09	-0.08	0.35	0.04	0.14	-0.11	0.64	0.08	0.05	-0.17	0.38	0.05	0.00	0.00	0.00	0.00

APPENDIX E

NEARBY BUILDINGS - WITH STUDY BUILDING

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # J 1 MEAN	MIN	MAX	RMS	TAP # J 2 MEAN	MIN	MAX	RMS	TAP # J 3 MEAN	MIN	MAX	RMS	TAP # J 4 MEAN	MIN	MAX	RMS	TAP # J 5 MEAN	MIN	MAX	RMS
10	0.06	-0.14	0.39	0.04	0.04	-0.16	0.19	0.03	0.05	-0.09	0.23	0.03	0.05	-0.13	0.22	0.03	0.04	-0.10	0.23	0.03
20	0.06	-0.09	0.28	0.04	0.04	-0.14	0.17	0.03	0.05	-0.11	0.23	0.03	0.05	-0.12	0.22	0.03	0.06	-0.17	0.27	0.04
30	0.05	-0.13	0.34	0.04	0.03	-0.13	0.20	0.03	0.04	-0.20	0.26	0.03	0.03	-0.17	0.18	0.04	0.05	-0.14	0.33	0.04
40	0.03	-0.19	0.30	0.04	0.01	-0.18	0.18	0.03	0.03	-0.10	0.18	0.03	0.02	-0.12	0.20	0.03	0.03	-0.16	0.18	0.03
50	-0.01	-0.26	0.30	0.04	0.00	-0.16	0.15	0.03	0.01	-0.19	0.18	0.03	0.01	-0.16	0.17	0.03	0.02	-0.12	0.19	0.04
60	-0.07	-0.32	0.17	0.05	-0.04	-0.26	0.19	0.04	-0.03	-0.18	0.14	0.04	-0.02	-0.20	0.12	0.04	-0.03	-0.24	0.19	0.04
70	-0.10	-0.30	0.14	0.04	-0.06	-0.25	0.12	0.04	-0.06	-0.25	0.08	0.04	-0.05	-0.22	0.11	0.04	-0.06	-0.24	0.13	0.04
80	-0.12	-0.36	0.10	0.05	-0.06	-0.34	0.24	0.06	-0.07	-0.30	0.13	0.04	-0.07	-0.31	0.18	0.05	-0.09	-0.29	0.09	0.04
90	-0.12	-0.39	0.13	0.05	-0.09	-0.35	0.26	0.05	-0.08	-0.25	0.15	0.04	-0.09	-0.36	0.09	0.04	-0.10	-0.37	0.17	0.05
100	-0.14	-0.35	0.03	0.04	-0.10	-0.33	0.14	0.05	-0.10	-0.41	0.23	0.05	-0.11	-0.34	0.13	0.05	-0.13	-0.38	0.04	0.04
110	-0.12	-0.35	0.06	0.04	-0.09	-0.41	0.19	0.06	-0.09	-0.33	0.13	0.05	-0.09	-0.35	0.12	0.04	-0.11	-0.36	0.09	0.04
120	-0.11	-0.31	0.06	0.04	-0.09	-0.31	0.10	0.04	-0.11	-0.27	0.06	0.04	-0.09	-0.24	0.08	0.04	-0.10	-0.32	0.05	0.04
130	-0.11	-0.29	0.06	0.04	-0.10	-0.33	0.09	0.04	-0.13	-0.41	0.12	0.05	-0.11	-0.29	0.13	0.04	-0.12	-0.36	0.02	0.04
140	-0.15	-0.35	0.03	0.04	-0.15	-0.52	0.20	0.04	-0.17	-0.43	0.07	0.04	-0.16	-0.37	0.12	0.04	-0.14	-0.41	0.08	0.04
150	-0.15	-0.36	0.04	0.04	-0.16	-0.42	0.14	0.04	-0.16	-0.33	-0.02	0.03	-0.16	-0.35	0.06	0.04	-0.15	-0.35	0.03	0.04
160	-0.14	-0.32	0.03	0.04	-0.14	-0.38	0.12	0.04	-0.15	-0.29	0.09	0.03	-0.14	-0.33	0.16	0.04	-0.14	-0.32	0.03	0.04
170	-0.14	-0.34	0.05	0.04	-0.14	-0.36	0.10	0.04	-0.15	-0.29	0.11	0.04	-0.13	-0.34	0.16	0.04	-0.13	-0.37	0.08	0.04
180	-0.12	-0.38	0.02	0.03	-0.13	-0.36	0.07	0.04	-0.14	-0.34	0.03	0.03	-0.12	-0.33	0.10	0.04	-0.12	-0.30	0.01	0.03
190	-0.13	-0.36	0.05	0.04	-0.11	-0.31	0.20	0.05	-0.13	-0.46	0.18	0.05	-0.12	-0.33	0.23	0.05	-0.13	-0.34	0.03	0.04
200	-0.16	-0.49	0.04	0.05	-0.14	-0.45	0.34	0.07	-0.18	-0.61	0.10	0.06	-0.16	-0.43	0.11	0.05	-0.17	-0.46	0.04	0.05
210	-0.18	-0.49	0.03	0.05	-0.17	-0.50	0.14	0.06	-0.21	-0.57	0.10	0.05	-0.19	-0.40	0.10	0.04	-0.18	-0.39	0.00	0.04
220	-0.18	-0.45	-0.03	0.04	-0.17	-0.38	0.04	0.04	-0.19	-0.47	-0.05	0.04	-0.19	-0.37	-0.06	0.04	-0.17	-0.37	-0.05	0.03
230	-0.14	-0.32	-0.03	0.03	-0.15	-0.31	0.00	0.03	-0.16	-0.36	-0.02	0.03	-0.16	-0.31	-0.04	0.03	-0.14	-0.26	0.00	0.03
240	-0.12	-0.26	0.01	0.03	-0.13	-0.27	0.02	0.03	-0.13	-0.24	-0.01	0.03	-0.14	-0.29	-0.02	0.03	-0.13	-0.28	0.01	0.03
250	-0.12	-0.26	0.09	0.03	-0.11	-0.28	0.02	0.03	-0.12	-0.27	0.03	0.03	-0.13	-0.37	0.03	0.04	-0.12	-0.32	0.09	0.04
260	-0.10	-0.34	0.06	0.04	-0.10	-0.35	0.07	0.04	-0.10	-0.31	0.05	0.04	-0.11	-0.35	0.03	0.04	-0.10	-0.31	0.09	0.04
270	-0.05	-0.27	0.13	0.04	-0.05	-0.26	0.17	0.04	-0.06	-0.36	0.20	0.05	-0.07	-0.40	0.16	0.05	-0.05	-0.29	0.16	0.04
280	0.00	-0.24	0.17	0.03	0.00	-0.32	0.16	0.04	0.00	-0.20	0.19	0.04	-0.01	-0.24	0.19	0.04	0.00	-0.15	0.16	0.04
290	0.02	-0.15	0.19	0.04	0.02	-0.16	0.24	0.04	0.01	-0.15	0.23	0.04	0.00	-0.16	0.21	0.04	0.00	-0.19	0.18	0.04
300	0.02	-0.12	0.20	0.03	0.01	-0.22	0.18	0.03	0.01	-0.15	0.15	0.03	0.00	-0.18	0.15	0.03	0.01	-0.17	0.23	0.03
310	0.02	-0.13	0.21	0.03	0.02	-0.12	0.14	0.03	0.02	-0.15	0.18	0.03	0.02	-0.17	0.22	0.03	0.02	-0.13	0.22	0.03
320	0.03	-0.10	0.18	0.03	0.02	-0.12	0.19	0.03	0.03	-0.12	0.20	0.03	0.02	-0.16	0.20	0.03	0.03	-0.11	0.29	0.04
330	0.03	-0.20	0.17	0.03	0.03	-0.14	0.20	0.03	0.04	-0.14	0.25	0.03	0.03	-0.17	0.20	0.03	0.03	-0.13	0.26	0.04
340	0.03	-0.14	0.26	0.03	0.03	-0.15	0.17	0.03	0.04	-0.14	0.25	0.04	0.03	-0.19	0.16	0.04	0.04	-0.14	0.33	0.04
350	0.03	-0.23	0.18	0.03	0.04	-0.17	0.18	0.03	0.04	-0.11	0.23	0.04	0.04	-0.18	0.19	0.03	0.04	-0.18	0.30	0.04
360	0.04	-0.17	0.27	0.03	0.04	-0.22	0.19	0.03	0.05	-0.09	0.21	0.03	0.04	-0.16	0.20	0.03	0.05	-0.22	0.28	0.04

NEARBY BUILDINGS - WITH STUDY BUILDING

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # J 6 MEAN	MIN	MAX	RMS	TAP # K 1 MEAN	MIN	MAX	RMS	TAP # K 2 MEAN	MIN	MAX	RMS	TAP # K 3 MEAN	MIN	MAX	RMS	TAP # K 4 MEAN	MIN	MAX	RMS
10	0.04	-0.18	0.18	0.03	-0.12	-0.60	0.17	0.08	-0.04	-0.38	0.13	0.04	-0.06	-0.50	0.16	0.05	-0.16	-0.70	0.17	0.08
20	0.04	-0.18	0.18	0.03	-0.09	-0.57	0.15	0.08	-0.06	-0.43	0.15	0.06	-0.07	-0.46	0.11	0.05	-0.15	-0.64	0.17	0.08
30	0.03	-0.13	0.26	0.04	-0.04	-0.43	0.15	0.06	-0.05	-0.56	0.13	0.05	-0.04	-0.52	0.13	0.05	-0.09	-0.74	0.19	0.07
40	0.02	-0.13	0.23	0.03	-0.02	-0.38	0.17	0.05	-0.07	-0.42	0.12	0.06	0.00	-0.29	0.28	0.05	-0.05	-0.57	0.17	0.05
50	0.01	-0.12	0.26	0.03	-0.02	-0.40	0.19	0.06	-0.03	-0.35	0.13	0.05	0.01	-0.30	0.20	0.04	-0.03	-0.32	0.27	0.05
60	-0.03	-0.19	0.14	0.04	0.00	-0.38	0.20	0.05	-0.01	-0.24	0.19	0.04	-0.02	-0.34	0.13	0.04	-0.05	-0.34	0.23	0.05
70	-0.06	-0.26	0.14	0.04	0.00	-0.22	0.20	0.04	-0.02	-0.37	0.22	0.05	-0.04	-0.43	0.12	0.04	-0.09	-0.43	0.21	0.06
80	-0.09	-0.32	0.16	0.05	-0.04	-0.25	0.16	0.05	-0.05	-0.48	0.17	0.06	-0.10	-0.59	0.11	0.06	-0.10	-0.44	0.17	0.06
90	-0.10	-0.34	0.16	0.05	-0.10	-0.58	0.16	0.06	-0.12	-0.90	0.18	0.07	-0.16	-0.53	0.05	0.06	-0.13	-0.49	0.10	0.06
100	-0.12	-0.37	0.14	0.04	-0.13	-0.61	0.15	0.06	-0.13	-0.52	0.19	0.07	-0.18	-0.51	0.03	0.06	-0.16	-0.56	0.04	0.06
110	-0.10	-0.32	0.13	0.04	-0.12	-0.39	0.13	0.05	-0.12	-0.41	0.10	0.05	-0.17	-0.53	0.03	0.05	-0.14	-0.50	0.08	0.05
120	-0.10	-0.27	0.06	0.04	-0.14	-0.50	0.06	0.04	-0.18	-0.44	0.04	0.05	-0.21	-0.57	0.01	0.07	-0.17	-0.50	0.15	0.05
130	-0.11	-0.26	0.06	0.03	-0.19	-0.64	0.02	0.06	-0.24	-0.61	0.05	0.07	-0.26	-0.76	-0.02	0.07	-0.23	-0.74	0.04	0.08
140	-0.13	-0.26	0.02	0.03	-0.19	-0.66	0.08	0.06	-0.24	-0.65	0.10	0.08	-0.27	-0.84	0.04	0.09	-0.24	-0.88	0.07	0.08
150	-0.13	-0.27	0.04	0.03	-0.19	-0.61	0.08	0.06	-0.21	-0.76	0.16	0.08	-0.26	-0.81	0.15	0.10	-0.24	-1.02	0.09	0.09
160	-0.13	-0.30	0.03	0.03	-0.13	-0.49	0.14	0.05	-0.17	-0.55	0.08	0.05	-0.19	-0.70	0.15	0.08	-0.19	-0.94	0.11	0.09
170	-0.12	-0.29	0.03	0.03	-0.18	-0.43	0.01	0.04	-0.17	-0.41	0.02	0.04	-0.17	-0.48	0.17	0.06	-0.18	-0.70	0.05	0.07
180	-0.12	-0.26	0.04	0.03	-0.17	-0.36	-0.04	0.03	-0.15	-0.37	0.02	0.04	-0.17	-0.38	0.13	0.05	-0.16	-0.62	0.11	0.05
190	-0.14	-0.34	0.03	0.04	-0.16	-0.36	0.01	0.04	-0.14	-0.57	0.10	0.04	-0.15	-0.49	0.04	0.05	-0.16	-0.41	0.05	0.04
200	-0.18	-0.43	0.09	0.05	-0.21	-0.54	-0.05	0.05	-0.21	-0.63	0.00	0.06	-0.24	-0.56	0.05	0.07	-0.19	-0.48	0.03	0.06
210	-0.18	-0.39	-0.04	0.04	-0.23	-0.62	-0.04	0.05	-0.25	-0.58	-0.04	0.06	-0.27	-0.55	-0.08	0.06	-0.21	-0.48	0.09	0.05
220	-0.17	-0.32	-0.02	0.03	-0.21	-0.45	-0.05	0.04	-0.23	-0.61	-0.02	0.06	-0.23	-0.54	-0.03	0.06	-0.21	-0.49	0.00	0.05
230	-0.14	-0.31	-0.03	0.03	-0.18	-0.44	-0.03	0.04	-0.20	-0.57	-0.03	0.05	-0.19	-0.43	-0.04	0.04	-0.19	-0.49	-0.03	0.05
240	-0.13	-0.35	0.00	0.03	-0.15	-0.36	-0.02	0.04	-0.16	-0.52	0.00	0.04	-0.16	-0.46	-0.01	0.04	-0.15	-0.39	-0.01	0.04
250	-0.12	-0.37	0.04	0.04	-0.14	-0.29	0.00	0.03	-0.15	-0.40	-0.02	0.04	-0.12	-0.26	0.05	0.03	-0.13	-0.41	0.01	0.03
260	-0.10	-0.29	0.13	0.04	-0.11	-0.27	0.01	0.03	-0.11	-0.26	0.00	0.03	-0.11	-0.22	0.01	0.03	-0.11	-0.26	0.06	0.03
270	-0.06	-0.22	0.09	0.03	-0.10	-0.38	0.09	0.04	-0.10	-0.26	0.13	0.03	-0.10	-0.24	0.03	0.03	-0.10	-0.28	0.04	0.04
280	-0.02	-0.14	0.11	0.03	-0.14	-0.66	0.18	0.06	-0.13	-0.57	0.17	0.06	-0.12	-0.42	0.05	0.04	-0.09	-0.47	0.14	0.06
290	-0.01	-0.13	0.14	0.03	-0.11	-0.56	0.06	0.04	-0.20	-0.67	0.07	0.08	-0.16	-0.53	0.00	0.04	-0.05	-0.39	0.17	0.05
300	0.00	-0.14	0.15	0.03	-0.12	-0.49	0.01	0.04	-0.26	-0.73	0.03	0.06	-0.17	-0.38	-0.03	0.04	-0.05	-0.41	0.14	0.05
310	0.01	-0.12	0.13	0.03	-0.12	-0.55	0.09	0.05	-0.23	-0.84	0.00	0.08	-0.16	-0.74	0.03	0.05	-0.07	-0.57	0.09	0.06
320	0.01	-0.13	0.13	0.03	-0.15	-0.72	0.07	0.09	-0.19	-0.55	0.05	0.07	-0.16	-0.42	0.05	0.05	-0.13	-0.79	0.12	0.08
330	0.02	-0.12	0.16	0.03	-0.18	-0.71	0.09	0.09	-0.17	-0.62	0.04	0.08	-0.17	-0.61	0.01	0.06	-0.17	-0.77	0.10	0.09
340	0.02	-0.12	0.16	0.03	-0.22	-0.82	0.08	0.10	-0.12	-0.53	0.08	0.07	-0.18	-0.58	0.04	0.06	-0.24	-0.75	0.03	0.09
350	0.03	-0.13	0.16	0.03	-0.19	-0.83	0.17	0.09	-0.09	-0.43	0.10	0.05	-0.15	-0.47	0.05	0.06	-0.22	-0.81	0.04	0.08
360	0.04	-0.13	0.21	0.03	-0.16	-0.84	0.20	0.09	-0.05	-0.50	0.13	0.04	-0.10	-0.56	0.12	0.06	-0.18	-0.63	0.14	0.08

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NEARBY BUILDINGS - WITH STUDY BUILDING
EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # K 5 MEAN	MIN	MAX	RMS	TAP # K 6 MEAN	MIN	MAX	RMS	TAP # K 7 MEAN	MIN	MAX	RMS	TAP # K 8 MEAN	MIN	MAX	RMS	TAP # K 9 MEAN	MIN	MAX	RMS
10	0.07	-0.33	0.41	0.07	0.04	-0.87	0.45	0.10	0.11	-0.10	0.64	0.07	-0.05	-0.27	0.24	0.05	-0.10	-0.52	0.19	0.07
20	0.11	-0.12	0.56	0.07	0.10	-0.41	0.68	0.10	0.11	-0.04	0.56	0.06	-0.06	-0.52	0.17	0.05	-0.06	-0.51	0.35	0.08
30	0.11	-0.10	0.57	0.08	0.12	-0.31	0.88	0.10	0.09	-0.13	0.45	0.05	-0.03	-0.30	0.15	0.04	-0.02	-0.50	0.27	0.06
40	0.11	-0.25	0.50	0.08	0.18	-0.08	0.77	0.10	0.06	-0.12	0.32	0.04	0.01	-0.24	0.23	0.04	0.02	-0.22	0.33	0.05
50	0.04	-0.32	0.39	0.07	0.13	-0.13	0.67	0.09	0.06	-0.12	0.34	0.04	0.01	-0.18	0.19	0.04	0.05	-0.12	0.38	0.05
60	-0.03	-0.51	0.25	0.06	0.01	-0.23	0.52	0.06	0.03	-0.22	0.25	0.05	0.00	-0.23	0.21	0.05	0.12	-0.09	0.49	0.07
70	-0.04	-0.32	0.18	0.05	-0.03	-0.24	0.25	0.04	-0.01	-0.25	0.17	0.04	-0.03	-0.42	0.18	0.06	0.12	-0.21	0.62	0.09
80	-0.08	-0.43	0.09	0.04	-0.07	-0.33	0.17	0.05	-0.04	-0.20	0.14	0.04	-0.01	-0.25	0.22	0.06	0.09	-0.20	0.67	0.10
90	-0.12	-0.35	0.14	0.04	-0.13	-0.49	0.34	0.06	-0.08	-0.24	0.09	0.04	0.00	-0.34	0.39	0.08	0.04	-0.38	0.71	0.11
100	-0.15	-0.41	-0.01	0.04	-0.15	-0.47	0.03	0.05	-0.12	-0.36	0.05	0.04	-0.02	-0.35	0.32	0.07	-0.06	-0.41	0.49	0.09
110	-0.15	-0.35	0.03	0.04	-0.15	-0.39	0.02	0.05	-0.12	-0.28	0.03	0.04	-0.04	-0.25	0.17	0.05	-0.04	-0.29	0.30	0.07
120	-0.16	-0.36	-0.02	0.04	-0.17	-0.39	0.04	0.04	-0.13	-0.28	0.00	0.03	-0.06	-0.45	0.29	0.06	-0.04	-0.43	0.30	0.06
130	-0.19	-0.37	-0.03	0.04	-0.22	-0.80	-0.01	0.06	-0.17	-0.31	-0.02	0.03	-0.11	-0.38	0.19	0.06	-0.10	-0.42	0.22	0.07
140	-0.21	-0.46	0.00	0.05	-0.22	-0.66	-0.01	0.06	-0.18	-0.35	-0.06	0.03	-0.10	-0.86	0.42	0.10	-0.16	-0.55	0.23	0.09
150	-0.20	-0.56	0.04	0.05	-0.23	-0.75	0.08	0.06	-0.19	-0.38	-0.05	0.03	-0.09	-0.56	0.49	0.09	-0.14	-0.74	0.37	0.10
160	-0.19	-0.47	0.05	0.05	-0.23	-0.78	-0.01	0.07	-0.18	-0.33	-0.05	0.03	-0.08	-0.59	0.32	0.07	-0.14	-0.68	0.22	0.09
170	-0.19	-0.41	0.02	0.04	-0.22	-0.70	0.02	0.06	-0.18	-0.30	-0.06	0.03	-0.09	-0.42	0.14	0.05	-0.16	-0.52	0.17	0.07
180	-0.17	-0.38	0.00	0.03	-0.20	-0.56	-0.05	0.04	-0.17	-0.27	-0.06	0.03	-0.10	-0.33	0.16	0.04	-0.19	-0.43	0.10	0.05
190	-0.17	-0.39	0.07	0.04	-0.22	-0.56	-0.04	0.05	-0.18	-0.30	-0.05	0.03	-0.08	-0.26	0.26	0.05	-0.22	-0.66	0.06	0.07
200	-0.20	-0.44	0.06	0.05	-0.24	-0.56	-0.09	0.05	-0.21	-0.39	-0.07	0.04	-0.08	-0.31	0.18	0.06	-0.28	-0.74	0.03	0.08
210	-0.23	-0.54	0.01	0.04	-0.24	-0.44	-0.03	0.05	-0.21	-0.38	-0.08	0.03	-0.11	-0.41	0.19	0.06	-0.31	-0.87	0.00	0.08
220	-0.21	-0.41	-0.06	0.04	-0.20	-0.39	-0.05	0.04	-0.20	-0.36	-0.06	0.03	-0.13	-0.36	0.09	0.05	-0.26	-0.86	-0.03	0.08
230	-0.17	-0.30	-0.06	0.03	-0.16	-0.32	-0.01	0.03	-0.17	-0.31	-0.04	0.03	-0.15	-0.36	-0.02	0.04	-0.18	-0.41	-0.01	0.04
240	-0.14	-0.27	0.00	0.03	-0.13	-0.27	-0.03	0.03	-0.14	-0.25	-0.02	0.03	-0.13	-0.29	0.09	0.03	-0.14	-0.42	-0.02	0.03
250	-0.12	-0.24	0.03	0.03	-0.12	-0.25	-0.01	0.03	-0.13	-0.29	-0.02	0.03	-0.11	-0.27	0.09	0.03	-0.11	-0.25	-0.01	0.03
260	-0.11	-0.22	0.03	0.03	-0.11	-0.22	-0.02	0.03	-0.11	-0.23	0.06	0.03	-0.11	-0.24	0.00	0.03	-0.10	-0.28	0.01	0.03
270	-0.10	-0.28	0.05	0.04	-0.10	-0.47	0.04	0.04	-0.09	-0.29	0.26	0.04	-0.10	-0.26	0.05	0.03	-0.11	-0.29	0.03	0.03
280	-0.11	-0.56	0.11	0.06	-0.13	-0.47	0.03	0.05	0.02	-0.21	0.42	0.07	-0.09	-0.30	0.09	0.04	-0.14	-0.43	0.06	0.05
290	-0.14	-0.77	0.17	0.08	-0.14	-0.39	0.06	0.05	0.07	-0.18	0.36	0.07	-0.11	-0.33	0.21	0.05	-0.18	-0.63	0.03	0.06
300	-0.15	-1.09	0.12	0.08	-0.16	-0.36	0.04	0.04	0.05	-0.28	0.42	0.07	-0.11	-0.30	0.22	0.05	-0.20	-0.61	0.05	0.06
310	-0.12	-0.75	0.10	0.08	-0.16	-0.48	0.02	0.04	0.03	-0.44	0.45	0.07	-0.13	-0.35	0.15	0.04	-0.20	-0.58	0.07	0.06
320	-0.12	-0.55	0.14	0.06	-0.18	-0.51	0.02	0.05	0.05	-0.49	0.45	0.08	-0.15	-0.37	0.30	0.05	-0.21	-0.58	0.06	0.07
330	-0.08	-0.65	0.27	0.08	-0.18	-0.75	0.10	0.06	0.08	-0.44	0.64	0.08	-0.14	-0.38	0.32	0.06	-0.20	-0.63	0.24	0.07
340	-0.04	-0.54	0.25	0.08	-0.22	-0.95	0.15	0.09	0.10	-0.24	0.68	0.09	-0.15	-0.39	0.32	0.05	-0.19	-0.64	0.18	0.07
350	-0.02	-0.38	0.30	0.07	-0.16	-0.58	0.24	0.10	0.09	-0.16	0.48	0.07	-0.11	-0.36	0.39	0.06	-0.17	-0.53	0.11	0.07
360	0.02	-0.35	0.43	0.07	-0.08	-0.76	0.47	0.12	0.10	-0.13	0.61	0.07	-0.06	-0.25	0.29	0.05	-0.12	-0.68	0.12	0.07

NEARBY BUILDINGS - WITH STUDY BUILDING

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # K 10 MEAN	MIN	MAX	RMS	TAP # K 11 MEAN	MIN	MAX	RMS	TAP # K 12 MEAN	MIN	MAX	RMS	TAP # K 13 MEAN	MIN	MAX	RMS	TAP # K 14 MEAN	MIN	MAX	RMS
10	0.13	-0.11	0.61	0.08	0.06	-0.18	0.48	0.07	0.04	-0.13	0.25	0.04	0.04	-0.14	0.37	0.06	0.00	-0.18	0.29	0.04
20	0.16	-0.09	0.61	0.09	0.14	-0.17	0.72	0.11	0.06	-0.10	0.42	0.05	0.08	-0.10	0.56	0.07	0.01	-0.18	0.26	0.04
30	0.14	-0.10	0.55	0.09	0.08	-0.14	0.56	0.07	0.05	-0.17	0.34	0.05	0.06	-0.14	0.45	0.06	0.01	-0.15	0.18	0.03
40	0.09	-0.27	0.51	0.08	0.04	-0.23	0.49	0.06	0.03	-0.23	0.28	0.04	0.02	-0.35	0.62	0.05	0.01	-0.27	0.16	0.04
50	0.00	-0.22	0.45	0.05	0.00	-0.18	0.25	0.05	0.01	-0.19	0.24	0.04	-0.03	-0.56	0.26	0.05	-0.01	-0.23	0.16	0.04
60	-0.03	-0.25	0.13	0.04	-0.04	-0.32	0.29	0.05	0.00	-0.20	0.24	0.05	-0.04	-0.38	0.16	0.05	-0.02	-0.16	0.12	0.04
70	-0.05	-0.19	0.09	0.04	-0.06	-0.24	0.19	0.04	-0.03	-0.19	0.17	0.04	-0.05	-0.34	0.16	0.04	-0.04	-0.21	0.14	0.04
80	-0.08	-0.25	0.07	0.04	-0.09	-0.29	0.23	0.05	-0.05	-0.24	0.10	0.04	-0.08	-0.51	0.16	0.05	-0.06	-0.26	0.13	0.04
90	-0.14	-0.32	0.03	0.04	-0.14	-0.47	0.26	0.06	-0.10	-0.32	0.08	0.04	-0.14	-0.42	0.13	0.05	-0.10	-0.32	0.10	0.05
100	-0.16	-0.34	-0.01	0.04	-0.16	-0.49	0.10	0.05	-0.12	-0.29	0.03	0.04	-0.16	-0.49	0.08	0.05	-0.12	-0.35	0.09	0.05
110	-0.15	-0.29	-0.02	0.03	-0.16	-0.44	0.03	0.04	-0.12	-0.28	0.02	0.03	-0.16	-0.47	0.06	0.05	-0.12	-0.30	0.10	0.05
120	-0.17	-0.30	-0.02	0.03	-0.18	-0.36	-0.01	0.04	-0.15	-0.29	-0.03	0.03	-0.18	-0.46	0.01	0.05	-0.15	-0.31	0.12	0.04
130	-0.21	-0.39	-0.07	0.04	-0.20	-0.44	-0.02	0.05	-0.18	-0.39	-0.02	0.04	-0.22	-0.44	-0.02	0.04	-0.16	-0.36	0.14	0.05
140	-0.22	-0.43	-0.07	0.04	-0.21	-0.48	-0.01	0.05	-0.18	-0.39	-0.03	0.03	-0.23	-0.65	-0.07	0.05	-0.20	-0.45	0.04	0.05
150	-0.22	-0.44	-0.07	0.04	-0.22	-0.46	0.07	0.05	-0.18	-0.34	-0.05	0.03	-0.23	-0.69	-0.07	0.05	-0.19	-0.45	0.09	0.05
160	-0.21	-0.39	-0.07	0.04	-0.20	-0.42	-0.03	0.04	-0.17	-0.29	-0.05	0.03	-0.20	-0.71	-0.03	0.05	-0.17	-0.43	0.10	0.05
170	-0.19	-0.34	-0.07	0.03	-0.19	-0.34	-0.04	0.03	-0.17	-0.32	-0.05	0.03	-0.20	-0.51	-0.04	0.04	-0.17	-0.36	0.03	0.04
180	-0.19	-0.37	-0.07	0.03	-0.18	-0.31	-0.01	0.03	-0.17	-0.30	-0.05	0.03	-0.19	-0.51	-0.04	0.03	-0.16	-0.38	0.01	0.04
190	-0.19	-0.35	-0.05	0.03	-0.19	-0.37	-0.04	0.03	-0.17	-0.30	-0.07	0.03	-0.19	-0.39	-0.08	0.03	-0.16	-0.36	-0.03	0.03
200	-0.24	-0.47	-0.08	0.04	-0.21	-0.43	0.11	0.05	-0.21	-0.38	-0.06	0.04	-0.23	-0.56	-0.07	0.05	-0.18	-0.43	0.02	0.04
210	-0.25	-0.46	-0.09	0.04	-0.23	-0.40	0.00	0.05	-0.21	-0.48	-0.07	0.04	-0.24	-0.50	0.02	0.05	-0.19	-0.54	0.00	0.05
220	-0.21	-0.50	-0.07	0.04	-0.21	-0.42	-0.04	0.04	-0.19	-0.38	-0.03	0.04	-0.21	-0.42	-0.06	0.04	-0.19	-0.37	-0.01	0.04
230	-0.17	-0.32	-0.02	0.03	-0.17	-0.30	-0.02	0.03	-0.18	-0.30	-0.05	0.03	-0.17	-0.32	-0.04	0.03	-0.16	-0.32	-0.02	0.03
240	-0.14	-0.30	0.00	0.03	-0.13	-0.27	-0.01	0.03	-0.14	-0.25	-0.03	0.03	-0.14	-0.29	0.00	0.03	-0.14	-0.26	-0.03	0.03
250	-0.11	-0.25	0.01	0.03	-0.11	-0.22	0.00	0.03	-0.13	-0.24	0.00	0.03	-0.12	-0.25	-0.02	0.03	-0.11	-0.23	0.00	0.03
260	-0.10	-0.25	0.03	0.03	-0.10	-0.22	0.02	0.03	-0.11	-0.24	0.00	0.03	-0.10	-0.22	0.00	0.03	-0.10	-0.21	0.02	0.03
270	-0.07	-0.24	0.16	0.04	-0.08	-0.21	0.06	0.03	-0.09	-0.28	0.10	0.04	-0.08	-0.31	0.12	0.04	-0.07	-0.23	0.06	0.03
280	0.04	-0.23	0.48	0.08	-0.04	-0.28	0.14	0.04	-0.01	-0.25	0.23	0.05	-0.03	-0.32	0.17	0.04	-0.01	-0.19	0.21	0.04
290	0.04	-0.30	0.58	0.09	-0.08	-0.32	0.15	0.05	0.01	-0.24	0.43	0.05	-0.05	-0.59	0.25	0.07	-0.05	-0.40	0.17	0.05
300	0.03	-0.28	0.50	0.09	-0.09	-0.36	0.11	0.05	0.01	-0.21	0.26	0.05	-0.04	-0.82	0.19	0.06	-0.05	-0.31	0.12	0.05
310	0.03	-0.28	0.50	0.08	-0.07	-0.33	0.17	0.05	0.00	-0.16	0.25	0.04	-0.05	-0.52	0.27	0.05	-0.04	-0.39	0.18	0.04
320	0.08	-0.24	0.55	0.09	-0.05	-0.30	0.19	0.05	0.01	-0.21	0.28	0.05	-0.03	-0.36	0.19	0.05	-0.03	-0.32	0.18	0.05
330	0.10	-0.31	0.53	0.08	-0.03	-0.26	0.31	0.05	0.02	-0.17	0.25	0.04	-0.02	-0.30	0.25	0.05	-0.01	-0.24	0.32	0.06
340	0.14	-0.23	0.66	0.08	-0.03	-0.24	0.20	0.05	0.02	-0.13	0.21	0.04	0.00	-0.31	0.31	0.05	-0.01	-0.20	0.28	0.05
350	0.10	-0.10	0.53	0.07	-0.02	-0.23	0.25	0.05	0.01	-0.13	0.26	0.04	-0.01	-0.22	0.23	0.05	-0.02	-0.23	0.19	0.04
360	0.11	-0.11	0.61	0.07	-0.01	-0.22	0.36	0.06	0.03	-0.17	0.23	0.04	0.01	-0.31	0.41	0.05	-0.01	-0.23	0.21	0.04

NEARBY BUILDINGS - WITH STUDY BUILDING
EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # K 15 MEAN	MIN	MAX	RMS	TAP # L 1 MEAN	MIN	MAX	RMS	TAP # L 2 MEAN	MIN	MAX	RMS	TAP # L 3 MEAN	MIN	MAX	RMS	TAP # L 4 MEAN	MIN	MAX	RMS
10	0.03	-0.14	0.26	0.04	-0.21	-1.19	0.16	0.16	-0.57	-1.38	0.11	0.16	0.30	-0.21	0.96	0.13	0.34	-0.05	0.82	0.12
20	0.03	-0.20	0.27	0.04	-0.04	-0.58	0.49	0.07	-0.33	-1.77	0.59	0.26	0.32	-0.16	0.79	0.13	0.31	-0.12	0.95	0.13
30	0.02	-0.22	0.28	0.04	0.05	-0.49	0.70	0.11	0.06	-1.42	0.65	0.18	0.15	-0.72	0.84	0.13	0.11	-0.30	0.60	0.10
40	0.01	-0.15	0.21	0.04	0.23	-0.18	0.88	0.12	0.31	-0.25	0.87	0.14	0.10	-1.23	0.74	0.20	0.07	-0.20	0.68	0.07
50	-0.01	-0.22	0.14	0.03	0.36	0.00	0.90	0.13	0.37	-0.06	0.87	0.12	-0.26	-1.12	0.59	0.23	0.02	-0.63	0.37	0.07
60	-0.03	-0.22	0.15	0.04	0.53	0.10	0.91	0.11	0.42	-0.01	0.77	0.10	-0.57	-1.18	-0.05	0.13	-0.33	-0.95	0.21	0.17
70	-0.05	-0.28	0.13	0.04	0.56	-0.13	1.15	0.12	0.37	-0.11	0.74	0.09	-0.45	-1.28	0.02	0.14	-0.44	-1.12	0.07	0.13
80	-0.09	-0.45	0.12	0.05	0.54	-0.12	1.00	0.13	0.29	-0.20	0.70	0.09	-0.35	-1.03	-0.01	0.09	-0.38	-1.06	0.03	0.10
90	-0.13	-0.59	0.06	0.05	0.53	-0.10	1.04	0.12	0.22	-0.13	0.54	0.08	-0.32	-0.65	-0.12	0.06	-0.34	-0.80	-0.07	0.07
100	-0.14	-0.40	0.05	0.04	0.29	-0.20	0.88	0.13	0.08	-0.23	0.48	0.09	-0.28	-0.81	-0.05	0.07	-0.29	-0.91	-0.02	0.08
110	-0.14	-0.40	0.00	0.04	0.10	-0.27	0.74	0.12	-0.01	-0.27	0.41	0.09	-0.19	-0.66	-0.01	0.06	-0.21	-0.73	0.04	0.08
120	-0.18	-0.41	-0.01	0.04	-0.02	-0.59	0.38	0.07	-0.14	-0.33	0.13	0.05	-0.25	-0.56	-0.04	0.06	-0.26	-0.60	-0.04	0.06
130	-0.21	-0.45	-0.02	0.04	0.02	-0.47	0.31	0.06	-0.20	-0.39	-0.01	0.04	-0.34	-0.69	-0.16	0.06	-0.36	-0.75	-0.17	0.08
140	-0.21	-0.56	-0.06	0.04	-0.11	-1.16	0.21	0.13	-0.22	-0.41	-0.04	0.04	-0.33	-0.59	-0.14	0.06	-0.34	-0.62	-0.13	0.06
150	-0.20	-0.44	-0.05	0.04	-0.31	-1.39	0.22	0.22	-0.25	-0.63	0.03	0.06	-0.34	-0.80	-0.02	0.07	-0.34	-0.68	-0.15	0.06
160	-0.18	-0.41	-0.06	0.03	-0.51	-1.34	0.11	0.19	-0.32	-1.04	-0.06	0.11	-0.35	-1.13	-0.05	0.10	-0.35	-0.86	-0.11	0.07
170	-0.19	-0.38	-0.07	0.03	-0.51	-1.37	0.05	0.14	-0.44	-1.22	-0.06	0.14	-0.36	-0.86	-0.04	0.10	-0.33	-0.89	-0.10	0.08
180	-0.18	-0.37	-0.05	0.03	-0.42	-1.33	-0.04	0.11	-0.35	-0.94	-0.02	0.11	-0.30	-0.78	-0.05	0.08	-0.29	-0.75	-0.09	0.07
190	-0.19	-0.36	-0.04	0.03	-0.32	-0.96	-0.10	0.09	-0.33	-0.92	-0.09	0.08	-0.27	-0.60	-0.04	0.06	-0.25	-0.78	-0.03	0.06
200	-0.24	-0.50	-0.04	0.05	-0.27	-0.75	-0.04	0.06	-0.29	-0.70	-0.09	0.06	-0.25	-0.63	-0.02	0.05	-0.25	-0.58	-0.07	0.05
210	-0.25	-0.55	-0.09	0.05	-0.27	-0.57	-0.10	0.05	-0.31	-0.71	-0.09	0.06	-0.28	-0.66	-0.06	0.06	-0.28	-0.75	-0.11	0.06
220	-0.22	-0.49	-0.08	0.04	-0.28	-0.67	-0.10	0.06	-0.31	-0.70	-0.10	0.06	-0.31	-1.03	-0.05	0.07	-0.28	-0.76	-0.09	0.06
230	-0.16	-0.31	-0.05	0.03	-0.24	-0.58	-0.04	0.05	-0.25	-0.51	-0.06	0.04	-0.28	-0.60	-0.04	0.07	-0.26	-0.55	-0.02	0.06
240	-0.13	-0.25	-0.02	0.03	-0.17	-0.38	-0.01	0.04	-0.17	-0.37	-0.06	0.04	-0.20	-0.70	-0.04	0.05	-0.19	-0.48	-0.05	0.04
250	-0.12	-0.23	-0.01	0.03	-0.13	-0.28	0.01	0.04	-0.14	-0.40	-0.01	0.03	-0.14	-0.33	0.00	0.03	-0.14	-0.35	0.03	0.04
260	-0.10	-0.22	0.06	0.03	-0.12	-0.31	-0.01	0.03	-0.13	-0.43	-0.01	0.03	-0.12	-0.35	0.05	0.03	-0.12	-0.32	0.05	0.04
270	-0.06	-0.24	0.21	0.04	-0.13	-0.42	-0.01	0.03	-0.13	-0.42	-0.03	0.03	-0.11	-0.28	0.04	0.03	-0.10	-0.53	0.17	0.04
280	0.01	-0.23	0.38	0.05	-0.19	-0.45	-0.06	0.04	-0.19	-0.41	-0.05	0.04	-0.09	-0.30	0.19	0.05	0.01	-0.38	0.40	0.08
290	0.01	-0.30	0.27	0.05	-0.31	-0.55	-0.08	0.05	-0.30	-0.55	-0.09	0.05	-0.10	-0.32	0.15	0.05	0.13	-0.17	0.52	0.09
300	0.02	-0.18	0.25	0.05	-0.35	-0.57	-0.17	0.05	-0.34	-0.54	-0.19	0.05	-0.07	-0.26	0.20	0.06	0.22	-0.18	0.59	0.10
310	0.02	-0.15	0.24	0.04	-0.35	-0.60	-0.17	0.05	-0.34	-0.55	-0.19	0.05	0.02	-0.26	0.40	0.07	0.29	-0.07	0.82	0.11
320	0.02	-0.14	0.23	0.04	-0.36	-0.68	-0.13	0.06	-0.35	-0.59	-0.17	0.04	0.05	-0.27	0.47	0.09	0.33	-0.08	0.84	0.13
330	0.03	-0.14	0.24	0.04	-0.35	-0.70	-0.17	0.06	-0.33	-0.56	-0.15	0.05	0.14	-0.20	0.61	0.11	0.38	-0.05	1.19	0.13
340	0.02	-0.15	0.21	0.04	-0.37	-1.16	-0.05	0.09	-0.35	-0.97	-0.13	0.07	0.19	-0.16	0.73	0.10	0.41	0.01	1.32	0.13
350	0.01	-0.17	0.24	0.04	-0.44	-1.33	0.01	0.15	-0.41	-1.17	-0.14	0.11	0.24	-0.18	0.78	0.12	0.39	-0.04	0.97	0.15
360	0.01	-0.24	0.20	0.04	-0.39	-1.38	0.12	0.17	-0.55	-1.45	-0.08	0.16	0.24	-0.21	0.93	0.14	0.37	-0.06	0.96	0.14

NEARBY BUILDINGS - WITH STUDY BUILDING

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # L 5 MEAN	MIN	MAX	RMS	TAP # L 6 MEAN	MIN	MAX	RMS	TAP # L 7 MEAN	MIN	MAX	RMS	TAP # L 8 MEAN	MIN	MAX	RMS	TAP # L 9 MEAN	MIN	MAX	RMS
10	-0.32	-1.51	0.08	0.15	-0.35	-1.32	0.12	0.15	-0.38	-1.18	0.02	0.12	0.20	-0.26	0.83	0.11	0.33	-0.11	0.97	0.14
20	-0.32	-1.36	0.01	0.17	-0.19	-0.89	0.19	0.11	-0.31	-1.30	0.22	0.14	0.13	-0.39	0.78	0.11	0.28	-0.20	0.93	0.13
30	-0.21	-1.77	0.13	0.15	-0.06	-0.43	0.44	0.08	-0.09	-0.67	0.51	0.10	-0.01	-0.74	0.38	0.09	0.06	-0.44	0.81	0.10
40	-0.27	-1.36	0.09	0.12	0.12	-0.25	0.76	0.11	0.09	-0.37	0.66	0.09	-0.12	-0.94	0.29	0.14	-0.04	-0.48	0.39	0.06
50	-0.29	-0.93	0.02	0.09	0.27	-0.16	0.98	0.12	0.19	-0.27	0.83	0.11	-0.26	-1.22	0.17	0.13	-0.10	-0.87	0.20	0.11
60	-0.33	-0.77	-0.06	0.08	0.44	-0.04	0.96	0.12	0.31	-0.22	0.82	0.12	-0.47	-1.14	0.08	0.12	-0.38	-1.36	0.26	0.17
70	-0.41	-1.64	0.13	0.13	0.49	-0.01	0.94	0.12	0.34	-0.24	0.77	0.11	-0.45	-1.09	-0.03	0.10	-0.45	-1.13	0.10	0.13
80	-0.52	-1.79	0.13	0.24	0.32	-0.23	0.87	0.15	0.15	-0.38	0.64	0.12	-0.49	-1.56	-0.07	0.12	-0.47	-1.15	0.08	0.14
90	-0.42	-1.48	0.32	0.26	0.43	-0.12	1.14	0.14	0.13	-0.36	0.64	0.11	-0.40	-1.14	-0.06	0.08	-0.42	-1.02	-0.13	0.09
100	-0.18	-1.24	0.25	0.18	0.25	-0.12	0.98	0.12	0.05	-0.29	0.59	0.09	-0.33	-0.81	-0.04	0.07	-0.34	-0.72	-0.09	0.08
110	0.01	-0.77	0.58	0.11	0.08	-0.29	0.66	0.09	-0.03	-0.31	0.56	0.08	-0.24	-0.79	-0.01	0.06	-0.24	-0.78	-0.05	0.06
120	0.25	-0.34	0.97	0.15	-0.02	-0.68	0.27	0.06	-0.14	-0.40	0.14	0.06	-0.28	-0.70	0.00	0.07	-0.32	-0.72	-0.02	0.08
130	0.39	-0.14	1.02	0.16	-0.02	-0.62	0.24	0.07	-0.21	-0.60	0.07	0.06	-0.39	-0.97	-0.13	0.09	-0.46	-1.10	-0.15	0.10
140	0.31	-0.11	0.94	0.13	-0.13	-0.97	0.17	0.13	-0.23	-0.84	0.06	0.06	-0.38	-0.83	-0.09	0.08	-0.41	-0.93	-0.10	0.10
150	0.31	-0.10	0.94	0.14	-0.27	-1.66	0.18	0.21	-0.24	-0.97	0.05	0.08	-0.34	-0.89	-0.01	0.09	-0.38	-0.96	-0.10	0.09
160	0.29	-0.29	0.92	0.13	-0.43	-1.57	0.21	0.24	-0.28	-1.13	0.14	0.14	-0.31	-0.94	0.01	0.10	-0.32	-1.03	-0.08	0.08
170	0.26	-0.37	0.96	0.13	-0.54	-1.54	0.30	0.17	-0.41	-1.42	0.14	0.17	-0.34	-1.26	-0.02	0.12	-0.29	-0.83	0.03	0.08
180	0.06	-0.39	0.73	0.12	-0.42	-1.27	0.08	0.15	-0.28	-1.20	0.07	0.12	-0.26	-0.77	-0.05	0.08	-0.22	-0.60	-0.07	0.05
190	0.03	-0.22	0.51	0.08	-0.38	-1.38	-0.02	0.11	-0.33	-1.01	-0.01	0.10	-0.29	-0.71	-0.03	0.08	-0.22	-0.64	-0.03	0.05
200	-0.04	-0.33	0.73	0.09	-0.31	-0.90	-0.07	0.07	-0.32	-0.81	-0.11	0.07	-0.27	-0.72	-0.02	0.06	-0.25	-0.67	-0.03	0.05
210	-0.14	-0.36	0.15	0.05	-0.34	-0.83	-0.16	0.06	-0.35	-0.76	-0.07	0.07	-0.31	-0.71	-0.02	0.06	-0.29	-0.71	-0.09	0.06
220	-0.15	-0.34	0.12	0.04	-0.34	-0.83	-0.03	0.08	-0.34	-0.81	-0.06	0.08	-0.35	-0.87	-0.04	0.09	-0.32	-0.88	-0.03	0.08
230	-0.15	-0.39	0.17	0.04	-0.29	-0.72	-0.12	0.07	-0.23	-0.67	-0.07	0.06	-0.33	-0.93	-0.08	0.08	-0.31	-0.96	-0.09	0.08
240	-0.12	-0.30	0.09	0.04	-0.17	-0.63	-0.03	0.04	-0.19	-0.49	-0.05	0.04	-0.22	-0.53	-0.06	0.06	-0.21	-0.51	-0.06	0.05
250	-0.10	-0.30	0.13	0.04	-0.13	-0.33	0.00	0.04	-0.13	-0.28	0.01	0.03	-0.13	-0.41	-0.01	0.04	-0.14	-0.38	0.01	0.03
260	-0.11	-0.34	0.07	0.04	-0.11	-0.30	0.00	0.03	-0.12	-0.33	0.03	0.03	-0.12	-0.37	0.02	0.03	-0.12	-0.33	0.04	0.03
270	-0.12	-0.30	0.05	0.03	-0.12	-0.31	0.00	0.03	-0.12	-0.29	-0.02	0.03	-0.11	-0.25	0.15	0.03	-0.11	-0.35	0.11	0.04
280	-0.24	-0.68	-0.07	0.07	-0.19	-0.46	-0.05	0.05	-0.18	-0.57	-0.03	0.05	-0.09	-0.31	0.21	0.05	-0.01	-0.23	0.42	0.06
290	-0.37	-0.91	-0.16	0.07	-0.34	-1.13	-0.11	0.07	-0.31	-0.71	-0.11	0.06	-0.10	-0.35	0.18	0.06	0.10	-0.20	0.51	0.09
300	-0.41	-0.87	-0.20	0.07	-0.38	-0.72	-0.15	0.06	-0.36	-0.64	-0.18	0.06	-0.09	-0.34	0.14	0.06	0.19	-0.12	0.60	0.09
310	-0.40	-0.82	-0.15	0.07	-0.39	-0.74	-0.20	0.06	-0.38	-0.77	-0.16	0.06	-0.06	-0.29	0.46	0.07	0.22	-0.05	0.72	0.10
320	-0.38	-0.92	-0.18	0.07	-0.39	-0.80	-0.16	0.07	-0.36	-0.67	-0.18	0.06	0.01	-0.28	0.52	0.08	0.28	-0.11	0.93	0.13
330	-0.37	-0.73	-0.14	0.07	-0.40	-1.14	-0.20	0.06	-0.38	-0.98	-0.13	0.07	0.09	-0.25	0.64	0.10	0.29	-0.05	0.85	0.13
340	-0.34	-0.80	-0.10	0.07	-0.41	-1.03	-0.06	0.10	-0.39	-1.03	-0.12	0.08	0.13	-0.25	0.62	0.10	0.35	-0.12	0.91	0.13
350	-0.33	-1.08	-0.05	0.10	-0.49	-1.29	0.07	0.14	-0.46	-1.37	-0.10	0.12	0.14	-0.28	0.67	0.12	0.30	-0.10	0.93	0.13
360	-0.30	-0.80	-0.04	0.09	-0.42	-1.31	0.06	0.15	-0.46	-1.53	-0.05	0.14	0.15	-0.27	0.80	0.12	0.28	-0.15	0.78	0.13

NEARBY BUILDINGS - WITH STUDY BUILDING

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # L 10 MEAN	MIN	MAX	RMS	TAP # L 11 MEAN	MIN	MAX	RMS	TAP # L 12 MEAN	MIN	MAX	RMS	TAP # L 13 MEAN	MIN	MAX	RMS	TAP # L 14 MEAN	MIN	MAX	RMS
10	-0.19	-1.17	0.21	0.13	-0.46	-1.51	0.24	0.18	0.14	-0.23	0.76	0.13	0.16	-0.15	0.78	0.11	-0.16	-0.42	0.03	0.04
20	-0.11	-0.75	0.16	0.09	-0.22	-0.93	0.23	0.12	0.15	-0.31	0.69	0.11	0.18	-0.24	0.74	0.12	-0.02	-0.08	0.03	0.04
30	-0.02	-0.31	0.28	0.05	-0.05	-0.91	0.27	0.08	0.03	-0.33	0.71	0.08	0.06	-0.30	0.71	0.10	-0.02	-0.19	0.11	0.03
40	0.06	-0.25	0.69	0.08	0.02	-0.36	0.53	0.07	-0.07	-0.70	0.21	0.08	-0.03	-0.30	0.29	0.05	0.06	-0.19	0.17	0.04
50	0.15	-0.26	0.74	0.10	0.08	-0.30	0.71	0.09	-0.16	-1.04	0.20	0.11	-0.08	-0.81	0.20	0.08	0.01	-0.18	0.16	0.04
60	0.27	-0.09	0.83	0.10	0.15	-0.35	0.77	0.11	-0.45	-1.36	0.23	0.19	-0.16	-1.09	0.41	0.16	0.03	-0.12	0.25	0.04
70	0.35	-0.02	0.83	0.11	0.22	-0.27	0.91	0.12	-0.56	-1.64	0.20	0.16	-0.32	-1.14	0.22	0.22	0.00	-0.26	0.17	0.04
80	0.19	-0.22	0.72	0.10	0.09	-0.41	0.70	0.11	-0.52	-1.91	0.14	0.20	-0.25	-1.22	0.35	0.18	0.00	-0.21	0.37	0.05
90	0.27	-0.17	0.92	0.13	0.01	-0.33	0.52	0.09	-0.51	-1.53	0.00	0.14	-0.46	-1.17	0.34	0.16	0.06	-0.20	0.42	0.07
100	0.23	-0.11	0.69	0.10	0.01	-0.37	0.52	0.09	-0.44	-1.23	-0.06	0.11	-0.42	-0.98	0.13	0.12	0.07	-0.21	0.32	0.05
110	0.09	-0.16	0.55	0.08	-0.02	-0.36	0.43	0.08	-0.30	-1.04	-0.03	0.08	-0.27	-0.90	0.16	0.09	0.05	-0.20	0.25	0.04
120	-0.03	-0.62	0.23	0.06	-0.16	-0.53	0.07	0.06	-0.36	-1.36	0.00	0.12	-0.34	-1.05	0.00	0.11	0.04	-0.16	0.35	0.05
130	-0.06	-0.61	0.24	0.08	-0.23	-0.75	0.04	0.07	-0.53	-2.14	0.05	0.19	-0.45	-1.18	-0.05	0.14	0.02	-0.14	0.34	0.05
140	-0.12	-0.81	0.17	0.10	-0.26	-0.74	0.05	0.07	-0.48	-1.60	-0.05	0.14	-0.42	-1.33	-0.06	0.13	0.04	-0.14	0.65	0.06
150	-0.15	-1.03	0.12	0.12	-0.24	-0.68	0.04	0.08	-0.42	-1.18	0.03	0.15	-0.40	-1.14	-0.03	0.14	0.05	-0.15	0.48	0.07
160	-0.23	-1.24	0.41	0.18	-0.20	-0.79	0.15	0.09	-0.32	-1.40	0.00	0.15	-0.30	-1.08	0.10	0.12	0.02	-0.19	0.47	0.06
170	-0.36	-1.55	0.32	0.24	-0.21	-0.99	0.21	0.11	-0.33	-1.59	-0.01	0.14	-0.24	-0.95	0.05	0.08	-0.02	-0.29	0.32	0.05
180	-0.16	-1.34	0.30	0.12	-0.16	-0.65	0.10	0.06	-0.22	-1.06	0.03	0.09	-0.18	-0.45	0.01	0.04	-0.05	-0.25	0.26	0.05
190	-0.38	-1.05	0.14	0.13	-0.26	-0.77	0.02	0.09	-0.27	-0.70	-0.05	0.07	-0.22	-0.64	-0.04	0.05	-0.04	-0.23	0.19	0.04
200	-0.36	-0.96	-0.03	0.09	-0.30	-0.69	-0.07	0.07	-0.26	-0.63	-0.03	0.06	-0.26	-0.93	-0.05	0.07	-0.09	-0.40	0.21	0.05
210	-0.38	-1.05	-0.15	0.08	-0.32	-0.74	-0.08	0.07	-0.32	-0.91	0.02	0.07	-0.33	-1.31	-0.08	0.11	-0.09	-0.25	0.16	0.04
220	-0.42	-1.02	-0.14	0.10	-0.31	-0.84	-0.02	0.08	-0.37	-1.03	-0.02	0.10	-0.42	-1.73	-0.02	0.13	-0.10	-0.35	0.15	0.04
230	-0.32	-1.08	0.02	0.10	-0.22	-0.85	0.07	0.07	-0.26	-0.80	0.05	0.09	-0.38	-1.30	0.05	0.11	-0.11	-0.24	0.04	0.03
240	-0.21	-0.70	-0.04	0.06	-0.20	-0.68	-0.03	0.06	-0.22	-0.57	-0.02	0.06	-0.26	-0.75	-0.02	0.07	-0.12	-0.25	0.01	0.03
250	-0.13	-0.35	0.05	0.04	-0.13	-0.28	-0.02	0.03	-0.13	-0.38	0.02	0.03	-0.13	-0.44	-0.01	0.04	-0.13	-0.36	0.00	0.03
260	-0.11	-0.25	0.00	0.03	-0.11	-0.23	0.00	0.03	-0.10	-0.26	0.02	0.03	-0.11	-0.33	-0.01	0.03	-0.12	-0.32	0.01	0.03
270	-0.11	-0.22	0.01	0.03	-0.11	-0.31	-0.01	0.03	-0.10	-0.21	0.07	0.03	-0.10	-0.28	0.09	0.03	-0.10	-0.23	0.02	0.03
280	-0.20	-0.74	0.06	0.06	-0.18	-0.76	-0.02	0.05	-0.08	-0.33	0.38	0.05	-0.02	-0.26	0.40	0.06	-0.11	-0.34	0.00	0.03
290	-0.42	-1.20	-0.09	0.10	-0.39	-1.18	-0.04	0.09	-0.12	-0.47	0.15	0.06	0.07	-0.19	0.52	0.09	-0.15	-0.48	0.03	0.05
300	-0.49	-1.12	-0.22	0.09	-0.47	-0.88	-0.17	0.09	-0.13	-0.37	0.13	0.06	0.11	-0.21	0.58	0.09	-0.20	-0.77	0.04	0.07
310	-0.50	-1.45	-0.22	0.10	-0.47	-1.02	-0.16	0.09	-0.12	-0.36	0.28	0.06	0.12	-0.18	0.55	0.08	-0.22	-0.81	0.12	0.08
320	-0.48	-1.15	-0.18	0.10	-0.48	-1.14	-0.19	0.10	-0.08	-0.33	0.34	0.07	0.14	-0.25	0.74	0.10	-0.21	-0.69	0.01	0.07
330	-0.48	-1.64	-0.17	0.12	-0.47	-1.27	-0.13	0.10	-0.02	-0.40	0.44	0.09	0.18	-0.20	0.69	0.10	-0.20	-0.67	0.06	0.07
340	-0.51	-1.57	-0.09	0.14	-0.49	-1.70	-0.14	0.14	-0.01	-0.42	0.48	0.09	0.19	-0.15	0.67	0.10	-0.18	-0.63	0.02	0.06
350	-0.48	-1.56	0.21	0.17	-0.53	-2.12	0.10	0.18	0.00	-0.35	0.65	0.12	0.14	-0.19	0.71	0.10	-0.15	-0.56	0.00	0.05
360	-0.29	-1.28	0.18	0.17	-0.51	-1.70	0.07	0.20	0.02	-0.42	0.72	0.11	0.12	-0.25	0.71	0.10	-0.11	-0.35	0.06	0.04

NEARBY BUILDINGS - WITH STUDY BUILDING
EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # L 15 MEAN	MIN	MAX	RMS	TAP # L 16 MEAN	MIN	MAX	RMS	TAP # L 17 MEAN	MIN	MAX	RMS	TAP # L 18 MEAN	MIN	MAX	RMS	TAP # L 19 MEAN	MIN	MAX	RMS
10	-0.08	-0.26	0.15	0.04	-0.09	-0.33	0.14	0.04	-0.02	-0.49	0.55	0.09	-0.01	-0.44	0.37	0.06	0.05	-0.21	0.58	0.09
20	-0.05	-0.25	0.17	0.04	-0.06	-0.33	0.13	0.05	0.06	-0.27	0.64	0.08	0.01	-0.48	0.35	0.06	0.05	-0.25	0.51	0.08
30	-0.02	-0.23	0.18	0.04	-0.03	-0.29	0.15	0.04	0.09	-0.20	0.68	0.07	-0.06	-0.65	0.23	0.09	0.00	-0.25	0.45	0.05
40	0.00	-0.17	0.22	0.04	0.00	-0.19	0.23	0.04	0.13	-0.15	1.04	0.10	-0.06	-0.69	0.44	0.10	0.00	-0.23	0.48	0.06
50	0.01	-0.15	0.19	0.04	0.03	-0.16	0.20	0.04	0.09	-0.15	0.68	0.09	-0.05	-0.60	0.30	0.09	-0.02	-0.22	0.36	0.05
60	0.04	-0.22	0.22	0.04	0.06	-0.12	0.29	0.04	0.04	-0.23	0.63	0.10	-0.05	-0.68	0.31	0.08	-0.03	-0.27	0.34	0.05
70	0.05	-0.13	0.25	0.04	0.08	-0.08	0.31	0.04	-0.02	-0.26	0.37	0.06	-0.03	-0.49	0.45	0.07	-0.04	-0.32	0.25	0.04
80	0.04	-0.21	0.30	0.05	0.06	-0.12	0.27	0.05	0.00	-0.18	0.42	0.05	-0.01	-0.43	0.27	0.06	-0.05	-0.31	0.34	0.06
90	0.09	-0.23	0.56	0.08	0.09	-0.12	0.33	0.05	0.03	-0.22	0.28	0.05	-0.01	-0.56	0.58	0.07	-0.11	-0.65	0.29	0.08
100	0.10	-0.21	0.50	0.07	0.08	-0.11	0.27	0.05	0.00	-0.17	0.39	0.05	-0.05	-0.55	0.31	0.07	-0.15	-0.56	0.25	0.07
110	0.08	-0.12	0.33	0.05	0.03	-0.11	0.19	0.04	-0.02	-0.24	0.24	0.05	-0.07	-0.42	0.21	0.06	-0.12	-0.45	0.14	0.05
120	0.03	-0.32	0.35	0.05	-0.01	-0.15	0.18	0.04	-0.02	-0.20	0.19	0.04	-0.18	-0.69	0.14	0.09	-0.18	-0.88	0.11	0.07
130	-0.01	-0.29	0.28	0.05	-0.03	-0.24	0.21	0.04	-0.02	-0.32	0.33	0.06	-0.29	-0.87	0.10	0.10	-0.27	-1.45	0.04	0.10
140	-0.05	-0.47	0.19	0.06	-0.03	-0.22	0.27	0.04	-0.01	-0.21	0.28	0.05	-0.28	-0.88	0.14	0.11	-0.32	-0.86	0.01	0.10
150	-0.04	-0.42	0.20	0.05	-0.02	-0.20	0.25	0.04	-0.01	-0.24	0.31	0.05	-0.28	-1.04	0.08	0.12	-0.30	-1.00	0.03	0.10
160	-0.05	-0.37	0.16	0.05	-0.03	-0.23	0.18	0.04	-0.02	-0.24	0.22	0.05	-0.24	-1.00	0.09	0.11	-0.24	-0.94	0.02	0.09
170	-0.07	-0.42	0.16	0.05	-0.05	-0.29	0.15	0.04	-0.05	-0.30	0.27	0.05	-0.22	-0.73	0.09	0.08	-0.20	-0.57	0.06	0.06
180	-0.07	-0.26	0.17	0.04	-0.06	-0.23	0.12	0.04	-0.05	-0.35	0.19	0.05	-0.17	-0.59	-0.01	0.05	-0.16	-0.57	0.01	0.04
190	-0.14	-0.34	0.03	0.04	-0.11	-0.26	0.02	0.03	-0.09	-0.23	0.03	0.03	-0.17	-0.45	0.01	0.05	-0.16	-0.47	-0.01	0.04
200	-0.17	-0.45	0.02	0.05	-0.13	-0.32	0.00	0.03	-0.10	-0.22	0.11	0.03	-0.20	-0.63	0.08	0.07	-0.23	-0.65	-0.03	0.06
210	-0.20	-0.56	-0.01	0.05	-0.15	-0.31	-0.02	0.03	-0.12	-0.28	0.08	0.03	-0.21	-0.64	0.01	0.07	-0.27	-0.79	0.01	0.07
220	-0.19	-0.46	-0.02	0.04	-0.16	-0.35	-0.04	0.03	-0.14	-0.28	0.03	0.03	-0.19	-0.58	0.01	0.06	-0.26	-0.79	-0.01	0.07
230	-0.15	-0.43	-0.01	0.03	-0.14	-0.28	0.00	0.03	-0.14	-0.26	-0.03	0.03	-0.16	-0.42	-0.01	0.04	-0.19	-0.60	-0.04	0.05
240	-0.14	-0.39	0.00	0.03	-0.14	-0.27	-0.01	0.03	-0.13	-0.25	-0.02	0.03	-0.15	-0.57	0.01	0.04	-0.18	-0.62	-0.02	0.05
250	-0.12	-0.29	0.01	0.03	-0.12	-0.23	-0.01	0.03	-0.11	-0.23	-0.01	0.03	-0.13	-0.32	-0.02	0.03	-0.13	-0.35	-0.02	0.03
260	-0.10	-0.23	0.05	0.03	-0.10	-0.23	0.00	0.03	-0.10	-0.21	0.01	0.02	-0.11	-0.24	0.00	0.03	-0.11	-0.24	0.00	0.03
270	-0.09	-0.19	0.01	0.03	-0.10	-0.22	0.00	0.03	-0.14	-0.39	-0.01	0.03	-0.11	-0.26	0.05	0.03	-0.09	-0.22	0.04	0.03
280	-0.10	-0.27	0.05	0.03	-0.14	-0.41	0.00	0.04	-0.20	-0.50	-0.01	0.05	-0.09	-0.29	0.14	0.04	-0.02	-0.18	0.27	0.05
290	-0.15	-0.53	0.11	0.05	-0.26	-0.56	-0.06	0.06	-0.39	-0.95	-0.13	0.08	-0.14	-0.38	0.15	0.05	0.05	-0.17	0.45	0.07
300	-0.19	-0.45	0.13	0.06	-0.35	-0.88	-0.09	0.08	-0.47	-0.96	-0.19	0.09	-0.15	-0.38	0.22	0.06	0.10	-0.24	0.49	0.09
310	-0.19	-0.51	0.11	0.06	-0.34	-0.76	-0.02	0.08	-0.48	-1.40	-0.12	0.10	-0.16	-0.38	0.15	0.06	0.09	-0.22	0.54	0.08
320	-0.17	-0.53	0.20	0.06	-0.30	-0.95	-0.08	0.08	-0.51	-1.22	-0.12	0.11	-0.14	-0.38	0.17	0.06	0.11	-0.19	0.56	0.10
330	-0.16	-0.46	0.16	0.05	-0.26	-0.74	-0.04	0.06	-0.45	-1.08	-0.05	0.10	-0.12	-0.40	0.29	0.07	0.13	-0.17	0.70	0.11
340	-0.15	-0.41	0.16	0.05	-0.23	-0.56	-0.02	0.05	-0.39	-0.82	-0.08	0.08	-0.07	-0.34	0.37	0.08	0.14	-0.20	0.65	0.11
350	-0.14	-0.32	0.00	0.04	-0.19	-0.41	0.00	0.04	-0.29	-0.69	-0.04	0.07	-0.07	-0.46	0.36	0.07	0.13	-0.24	0.69	0.11
360	-0.10	-0.26	0.06	0.03	-0.13	-0.31	0.10	0.04	-0.15	-0.59	0.23	0.08	-0.04	-0.58	0.39	0.06	0.09	-0.23	0.74	0.09

NEARBY BUILDINGS - WITH STUDY BUILDING
EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # L 20 MEAN	MIN	MAX	RMS	TAP # L 21 MEAN	MIN	MAX	RMS	TAP # M 1 MEAN	MIN	MAX	RMS	TAP # M 2 MEAN	MIN	MAX	RMS	TAP # M 3 MEAN	MIN	MAX	RMS
10	0.00	-0.33	0.41	0.07	-0.04	-0.24	0.22	0.04	-0.28	-0.76	0.01	0.08	-0.04	-0.20	0.17	0.03	-0.11	-0.73	0.19	0.11
20	-0.02	-0.34	0.32	0.07	-0.02	-0.37	0.33	0.05	-0.21	-0.69	0.04	0.08	-0.03	-0.18	0.29	0.04	-0.09	-0.67	0.45	0.12
30	-0.06	-0.57	0.29	0.07	-0.02	-0.25	0.19	0.04	-0.15	-0.56	0.10	0.07	-0.01	-0.19	0.28	0.04	-0.01	-0.66	0.41	0.08
40	-0.07	-0.49	0.16	0.06	-0.02	-0.28	0.15	0.04	-0.12	-0.53	0.13	0.07	0.04	-0.18	0.51	0.07	0.03	-0.65	0.35	0.07
50	-0.07	-0.55	0.15	0.06	-0.02	-0.26	0.17	0.04	-0.10	-0.63	0.17	0.07	0.08	-0.12	0.53	0.07	0.06	-0.75	0.54	0.07
60	-0.05	-0.73	0.16	0.07	0.00	-0.25	0.21	0.05	-0.07	-0.61	0.28	0.08	0.13	-0.09	0.56	0.07	0.13	-0.75	0.64	0.07
70	-0.04	-0.40	0.17	0.05	-0.01	-0.21	0.20	0.05	-0.05	-0.78	0.37	0.10	0.10	-0.15	0.49	0.06	0.11	-0.15	0.64	0.08
80	-0.03	-0.38	0.21	0.06	-0.01	-0.23	0.20	0.05	-0.04	-0.45	0.25	0.07	0.05	-0.18	0.30	0.05	0.05	-0.17	0.46	0.06
90	-0.03	-0.47	0.19	0.06	-0.03	-0.28	0.29	0.06	-0.02	-0.39	0.32	0.07	0.04	-0.17	0.35	0.06	0.03	-0.23	0.26	0.05
100	-0.06	-0.31	0.14	0.05	-0.06	-0.26	0.19	0.05	-0.06	-0.60	0.39	0.09	0.07	-0.21	0.62	0.09	0.00	-0.20	0.23	0.05
110	-0.07	-0.35	0.08	0.05	-0.06	-0.25	0.16	0.05	-0.09	-0.68	0.19	0.10	0.11	-0.22	0.65	0.09	0.00	-0.19	0.23	0.05
120	-0.10	-0.41	0.12	0.06	-0.08	-0.33	0.16	0.05	-0.05	-0.66	0.18	0.06	0.08	-0.15	0.55	0.08	0.04	-0.15	0.32	0.05
130	-0.17	-0.62	0.08	0.08	-0.09	-0.37	0.17	0.05	-0.08	-0.51	0.24	0.06	-0.02	-0.29	0.26	0.05	-0.03	-0.22	0.24	0.04
140	-0.12	-0.49	0.12	0.06	-0.11	-0.61	0.20	0.07	-0.08	-0.29	0.26	0.04	-0.05	-0.23	0.18	0.04	-0.04	-0.19	0.14	0.04
150	-0.10	-0.49	0.13	0.06	-0.10	-0.55	0.20	0.07	-0.06	-0.26	0.19	0.04	-0.04	-0.20	0.23	0.04	-0.02	-0.29	0.17	0.04
160	-0.09	-0.52	0.12	0.06	-0.09	-0.53	0.21	0.06	-0.07	-0.28	0.20	0.04	-0.07	-0.21	0.15	0.05	-0.06	-0.29	0.15	0.04
170	-0.11	-0.41	0.13	0.05	-0.09	-0.34	0.14	0.05	-0.06	-0.29	0.28	0.05	-0.10	-0.25	0.09	0.04	-0.08	-0.35	0.12	0.04
180	-0.13	-0.47	0.08	0.05	-0.11	-0.29	0.08	0.04	-0.06	-0.32	0.30	0.06	-0.11	-0.28	0.07	0.04	-0.09	-0.32	0.07	0.04
190	-0.12	-0.26	0.03	0.03	-0.13	-0.34	0.03	0.04	-0.10	-0.38	0.17	0.04	-0.11	-0.28	0.07	0.04	-0.08	-0.26	0.06	0.03
200	-0.11	-0.32	0.08	0.04	-0.14	-0.43	0.03	0.04	-0.08	-0.27	0.23	0.05	-0.11	-0.29	0.02	0.03	-0.09	-0.24	0.05	0.03
210	-0.13	-0.37	0.04	0.04	-0.17	-0.45	0.03	0.05	-0.09	-0.29	0.19	0.05	-0.13	-0.28	0.02	0.03	-0.10	-0.29	0.03	0.03
220	-0.15	-0.37	0.01	0.04	-0.17	-0.52	0.00	0.04	-0.11	-0.30	0.13	0.04	-0.14	-0.37	0.00	0.03	-0.12	-0.27	-0.01	0.03
230	-0.15	-0.28	-0.01	0.03	-0.15	-0.37	-0.02	0.04	-0.13	-0.33	0.10	0.04	-0.14	-0.29	0.00	0.03	-0.12	-0.25	0.02	0.03
240	-0.13	-0.27	-0.03	0.03	-0.14	-0.35	0.05	0.03	-0.12	-0.35	0.11	0.04	-0.13	-0.30	0.01	0.03	-0.12	-0.31	0.02	0.04
250	-0.12	-0.23	0.02	0.03	-0.11	-0.25	0.01	0.03	-0.10	-0.33	0.19	0.05	-0.11	-0.33	0.03	0.04	-0.11	-0.39	0.04	0.04
260	-0.10	-0.24	0.04	0.03	-0.10	-0.20	0.03	0.03	-0.10	-0.24	0.07	0.03	-0.09	-0.28	0.05	0.03	-0.09	-0.23	0.04	0.03
270	-0.06	-0.19	0.21	0.04	-0.07	-0.23	0.09	0.03	-0.10	-0.22	0.02	0.03	-0.09	-0.20	0.04	0.03	-0.09	-0.21	0.01	0.03
280	-0.06	-0.29	0.24	0.05	-0.09	-0.27	0.11	0.04	-0.13	-0.45	0.10	0.05	-0.12	-0.30	0.01	0.03	-0.13	-0.34	0.02	0.04
290	-0.11	-0.33	0.29	0.06	-0.09	-0.27	0.07	0.04	-0.17	-0.55	0.08	0.06	-0.16	-0.33	-0.01	0.04	-0.16	-0.39	-0.02	0.04
300	-0.11	-0.36	0.22	0.06	-0.10	-0.28	0.04	0.04	-0.19	-0.48	0.06	0.06	-0.18	-0.35	-0.04	0.04	-0.18	-0.45	-0.04	0.04
310	-0.14	-0.58	0.26	0.06	-0.10	-0.28	0.08	0.04	-0.19	-0.48	0.06	0.06	-0.18	-0.35	-0.02	0.04	-0.19	-0.48	-0.03	0.04
320	-0.15	-0.57	0.37	0.08	-0.11	-0.43	0.22	0.05	-0.19	-0.53	0.11	0.06	-0.18	-0.55	-0.01	0.04	-0.20	-0.55	0.08	0.05
330	-0.16	-0.46	0.39	0.08	-0.12	-0.54	0.16	0.05	-0.18	-0.52	0.10	0.05	-0.19	-0.52	0.04	0.06	-0.23	-0.86	0.18	0.08
340	-0.16	-0.52	0.33	0.08	-0.14	-0.55	0.12	0.06	-0.16	-0.47	0.06	0.05	-0.16	-0.52	0.06	0.06	-0.21	-0.63	0.09	0.07
350	-0.12	-0.44	0.43	0.07	-0.11	-0.52	0.12	0.05	-0.17	-0.60	0.05	0.07	-0.12	-0.47	0.10	0.05	-0.16	-0.62	0.18	0.08
360	-0.05	-0.30	0.33	0.07	-0.06	-0.32	0.23	0.05	-0.24	-0.65	0.07	0.08	-0.07	-0.30	0.08	0.04	-0.12	-0.72	0.13	0.09

NEARBY BUILDINGS - WITH STUDY BUILDING
EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # M 4 MEAN	MIN	MAX	RMS	TAP # M 5 MEAN	MIN	MAX	RMS	TAP # M 6 MEAN	MIN	MAX	RMS	TAP # M 7 MEAN	MIN	MAX	RMS	TAP # M 8 MEAN	MIN	MAX	RMS
10	0.04	-0.34	0.45	0.08	0.19	-0.12	0.83	0.11	0.03	-0.31	0.47	0.08	-0.14	-1.05	0.24	0.12	-0.09	-0.55	0.23	0.07
20	0.03	-0.27	0.36	0.07	0.16	-0.12	0.86	0.10	0.04	-0.26	0.48	0.08	-0.12	-0.91	0.31	0.11	-0.08	-0.43	0.32	0.06
30	0.00	-0.36	0.36	0.07	0.12	-0.20	0.71	0.09	0.01	-0.38	0.46	0.08	-0.15	-0.71	0.38	0.09	-0.08	-0.39	0.18	0.05
40	-0.04	-0.67	0.31	0.08	0.12	-0.41	0.61	0.09	-0.03	-0.44	0.42	0.08	-0.17	-1.05	0.11	0.11	-0.07	-0.30	0.07	0.04
50	-0.03	-0.66	0.27	0.07	0.07	-0.65	0.61	0.09	-0.01	-0.48	0.33	0.07	-0.15	-0.93	0.16	0.10	-0.06	-0.27	0.12	0.04
60	0.02	-0.40	0.34	0.07	0.07	-0.45	0.45	0.08	0.04	-0.24	0.39	0.07	-0.13	-0.60	0.17	0.08	-0.04	-0.27	0.12	0.04
70	0.04	-0.28	0.38	0.08	0.05	-0.35	0.33	0.07	0.07	-0.16	0.43	0.07	-0.11	-0.70	0.20	0.09	-0.04	-0.36	0.15	0.04
80	0.02	-0.29	0.31	0.08	0.03	-0.35	0.27	0.08	0.04	-0.20	0.43	0.06	-0.04	-0.61	0.24	0.07	-0.01	-0.21	0.18	0.05
90	0.00	-0.33	0.32	0.08	0.02	-0.28	0.35	0.05	0.02	-0.21	0.40	0.06	0.02	-0.47	0.39	0.06	0.00	-0.31	0.22	0.05
100	-0.03	-0.49	0.23	0.08	-0.01	-0.34	0.18	0.05	0.00	-0.26	0.23	0.06	0.01	-0.36	0.35	0.06	-0.03	-0.25	0.17	0.05
110	-0.04	-0.52	0.23	0.08	-0.02	-0.34	0.17	0.05	-0.01	-0.25	0.30	0.05	0.01	-0.25	0.23	0.05	-0.02	-0.21	0.16	0.05
120	-0.04	-0.35	0.13	0.05	-0.03	-0.21	0.14	0.04	-0.02	-0.24	0.23	0.04	0.00	-0.21	0.16	0.04	-0.01	-0.23	0.13	0.04
130	-0.06	-0.31	0.15	0.04	-0.06	-0.23	0.12	0.04	-0.04	-0.29	0.19	0.05	-0.03	-0.21	0.17	0.04	-0.03	-0.26	0.20	0.04
140	-0.06	-0.27	0.17	0.04	-0.06	-0.22	0.08	0.04	-0.05	-0.24	0.16	0.04	-0.04	-0.21	0.18	0.04	-0.05	-0.22	0.17	0.04
150	-0.04	-0.24	0.20	0.04	-0.05	-0.26	0.17	0.04	-0.04	-0.26	0.14	0.04	-0.02	-0.21	0.16	0.04	-0.04	-0.28	0.16	0.04
160	-0.05	-0.24	0.12	0.04	-0.07	-0.30	0.12	0.04	-0.06	-0.22	0.15	0.04	-0.03	-0.17	0.18	0.04	-0.04	-0.19	0.12	0.04
170	-0.06	-0.26	0.12	0.04	-0.09	-0.31	0.07	0.04	-0.06	-0.24	0.15	0.04	-0.02	-0.18	0.17	0.04	-0.04	-0.22	0.12	0.04
180	-0.05	-0.27	0.14	0.04	-0.09	-0.29	0.09	0.04	-0.07	-0.30	0.29	0.05	-0.04	-0.20	0.12	0.04	-0.04	-0.23	0.14	0.04
190	-0.09	-0.29	0.05	0.03	-0.09	-0.24	0.05	0.03	-0.10	-0.29	0.07	0.04	-0.09	-0.20	0.04	0.03	-0.10	-0.29	0.05	0.03
200	-0.08	-0.24	0.13	0.03	-0.10	-0.24	0.03	0.03	-0.11	-0.29	0.03	0.03	-0.09	-0.20	0.08	0.03	-0.13	-0.29	0.02	0.03
210	-0.10	-0.25	0.05	0.03	-0.10	-0.28	0.02	0.03	-0.12	-0.31	0.04	0.03	-0.11	-0.25	0.04	0.03	-0.14	-0.36	-0.01	0.03
220	-0.12	-0.30	0.02	0.03	-0.12	-0.28	0.01	0.03	-0.13	-0.39	-0.01	0.03	-0.12	-0.34	0.00	0.03	-0.15	-0.34	0.04	0.03
230	-0.13	-0.46	0.01	0.04	-0.12	-0.35	0.01	0.03	-0.13	-0.34	0.00	0.03	-0.13	-0.31	0.00	0.03	-0.15	-0.34	0.02	0.04
240	-0.13	-0.34	0.02	0.04	-0.13	-0.37	0.01	0.04	-0.13	-0.41	0.02	0.04	-0.13	-0.32	0.03	0.04	-0.14	-0.35	0.05	0.04
250	-0.12	-0.32	0.08	0.04	-0.12	-0.33	0.06	0.04	-0.12	-0.42	0.03	0.04	-0.12	-0.56	0.03	0.04	-0.12	-0.46	0.15	0.05
260	-0.10	-0.24	0.02	0.03	-0.11	-0.25	0.01	0.03	-0.10	-0.24	0.02	0.03	-0.11	-0.25	0.02	0.03	-0.11	-0.26	0.05	0.03
270	-0.10	-0.28	0.04	0.03	-0.10	-0.35	0.02	0.03	-0.12	-0.37	0.01	0.03	-0.11	-0.38	0.04	0.03	-0.11	-0.24	0.00	0.03
280	-0.13	-1.33	0.24	0.07	-0.13	-0.40	0.03	0.04	-0.21	-0.96	0.05	0.07	-0.18	-0.81	0.16	0.08	-0.16	-0.49	0.03	0.05
290	-0.18	-1.03	0.25	0.10	-0.17	-0.43	-0.02	0.04	-0.29	-1.19	0.06	0.10	-0.26	-0.80	0.22	0.11	-0.24	-0.59	-0.01	0.06
300	-0.20	-1.06	0.27	0.09	-0.19	-0.53	0.01	0.04	-0.30	-1.21	0.08	0.10	-0.28	-0.91	0.26	0.11	-0.26	-0.47	-0.03	0.06
310	-0.21	-1.03	0.12	0.09	-0.19	-0.57	0.00	0.05	-0.28	-1.22	0.07	0.09	-0.27	-0.82	0.22	0.10	-0.25	-0.68	0.04	0.06
320	-0.23	-0.89	0.01	0.08	-0.19	-0.61	0.07	0.05	-0.26	-1.35	-0.02	0.07	-0.26	-0.72	0.10	0.09	-0.25	-0.64	0.22	0.07
330	-0.23	-1.00	-0.01	0.08	-0.18	-0.54	0.15	0.06	-0.24	-0.93	-0.04	0.06	-0.25	-0.64	-0.01	0.07	-0.22	-0.61	0.16	0.07
340	-0.20	-0.77	0.11	0.07	-0.16	-0.48	0.25	0.06	-0.19	-0.53	0.02	0.05	-0.21	-0.52	-0.03	0.05	-0.18	-0.55	0.07	0.06
350	-0.16	-0.82	0.28	0.09	-0.10	-0.61	0.88	0.11	-0.16	-0.64	0.25	0.07	-0.18	-0.72	0.08	0.06	-0.14	-0.60	0.12	0.05
360	-0.03	-0.59	0.44	0.09	0.08	-0.62	0.85	0.13	-0.03	-0.49	0.64	0.09	-0.15	-0.98	0.26	0.10	-0.09	-0.42	0.21	0.06

NEARBY BUILDINGS - WITH STUDY BUILDING

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # M 9 MEAN	MIN	MAX	RMS	TAP # M 10 MEAN	MIN	MAX	RMS	TAP # M 11 MEAN	MIN	MAX	RMS	TAP # M 12 MEAN	MIN	MAX	RMS	TAP # M 13 MEAN	MIN	MAX	RMS
10	-0.11	-0.40	0.13	0.05	-0.10	-0.31	0.10	0.05	-0.14	-0.76	0.14	0.08	-0.06	-0.74	0.39	0.10	-0.11	-0.76	0.19	0.06
20	-0.07	-0.35	0.17	0.06	-0.05	-0.27	0.13	0.05	-0.10	-0.71	0.13	0.06	-0.09	-0.40	0.39	0.06	-0.08	-0.30	0.18	0.04
30	0.00	-0.39	0.33	0.05	-0.01	-0.27	0.19	0.04	-0.03	-0.72	0.16	0.06	-0.07	-0.41	0.15	0.05	-0.06	-0.25	0.11	0.04
40	0.02	-0.20	0.41	0.06	0.01	-0.18	0.25	0.04	-0.07	-0.70	0.37	0.07	-0.04	-0.38	0.16	0.04	-0.03	-0.18	0.15	0.03
50	0.00	-0.26	0.34	0.06	0.01	-0.16	0.31	0.05	-0.03	-0.47	0.22	0.06	-0.02	-0.24	0.18	0.04	0.00	-0.15	0.13	0.03
60	-0.04	-0.28	0.21	0.05	-0.02	-0.22	0.34	0.05	0.01	-0.29	0.25	0.04	0.01	-0.17	0.20	0.04	0.01	-0.20	0.20	0.04
70	-0.01	-0.20	0.19	0.04	-0.01	-0.24	0.23	0.05	0.02	-0.14	0.24	0.05	0.02	-0.15	0.17	0.04	0.01	-0.16	0.19	0.04
80	0.01	-0.31	0.19	0.05	0.01	-0.21	0.22	0.05	0.02	-0.24	0.25	0.05	0.02	-0.15	0.17	0.04	0.01	-0.15	0.18	0.04
90	0.03	-0.15	0.26	0.05	0.03	-0.15	0.24	0.05	0.04	-0.27	0.24	0.05	0.04	-0.11	0.22	0.04	0.04	-0.14	0.23	0.04
100	0.01	-0.24	0.21	0.04	0.02	-0.23	0.23	0.05	0.04	-0.26	0.28	0.05	0.03	-0.14	0.23	0.04	0.02	-0.18	0.24	0.05
110	-0.01	-0.18	0.19	0.04	-0.02	-0.27	0.16	0.04	0.02	-0.18	0.19	0.04	0.02	-0.18	0.17	0.04	0.00	-0.19	0.17	0.04
120	-0.03	-0.21	0.14	0.03	-0.03	-0.21	0.11	0.04	-0.01	-0.20	0.15	0.04	-0.02	-0.16	0.21	0.04	-0.01	-0.18	0.16	0.04
130	-0.06	-0.26	0.12	0.04	-0.10	-0.32	0.09	0.05	-0.03	-0.23	0.21	0.04	-0.04	-0.22	0.15	0.04	-0.05	-0.25	0.13	0.04
140	-0.07	-0.27	0.09	0.04	-0.12	-0.34	0.12	0.05	-0.03	-0.27	0.17	0.04	-0.05	-0.22	0.17	0.04	-0.06	-0.27	0.14	0.04
150	-0.07	-0.24	0.11	0.04	-0.12	-0.39	0.13	0.05	-0.01	-0.21	0.24	0.04	-0.03	-0.32	0.16	0.04	-0.06	-0.29	0.11	0.04
160	-0.07	-0.23	0.09	0.04	-0.14	-0.43	0.08	0.05	-0.02	-0.24	0.22	0.04	-0.04	-0.28	0.15	0.04	-0.07	-0.33	0.10	0.04
170	-0.08	-0.34	0.13	0.04	-0.17	-0.43	0.05	0.05	-0.04	-0.26	0.15	0.04	-0.07	-0.55	0.09	0.04	-0.09	-0.32	0.09	0.04
180	-0.08	-0.36	0.08	0.04	-0.17	-0.53	0.03	0.05	-0.05	-0.21	0.15	0.04	-0.08	-0.33	0.08	0.04	-0.10	-0.48	0.09	0.04
190	-0.11	-0.27	0.01	0.03	-0.14	-0.37	0.01	0.03	-0.10	-0.30	0.09	0.03	-0.10	-0.25	0.04	0.03	-0.10	-0.25	0.04	0.03
200	-0.11	-0.24	0.01	0.03	-0.13	-0.31	0.02	0.04	-0.11	-0.31	0.11	0.04	-0.10	-0.32	0.05	0.03	-0.11	-0.32	0.09	0.04
210	-0.14	-0.32	0.01	0.03	-0.12	-0.31	0.04	0.04	-0.16	-0.34	0.08	0.04	-0.15	-0.35	-0.01	0.04	-0.15	-0.37	0.01	0.04
220	-0.14	-0.28	-0.02	0.03	-0.13	-0.29	-0.01	0.03	-0.15	-0.40	0.04	0.04	-0.14	-0.34	-0.01	0.03	-0.15	-0.31	-0.01	0.03
230	-0.14	-0.28	-0.03	0.03	-0.13	-0.26	-0.01	0.03	-0.14	-0.42	-0.03	0.03	-0.13	-0.28	-0.01	0.03	-0.13	-0.27	0.00	0.03
240	-0.13	-0.27	-0.01	0.03	-0.13	-0.31	0.01	0.03	-0.15	-0.47	-0.02	0.04	-0.13	-0.31	0.00	0.03	-0.13	-0.26	-0.02	0.03
250	-0.13	-0.30	0.04	0.03	-0.12	-0.26	0.00	0.03	-0.13	-0.35	0.02	0.04	-0.11	-0.26	-0.01	0.03	-0.11	-0.24	0.00	0.03
260	-0.11	-0.24	0.02	0.03	-0.10	-0.24	0.00	0.03	-0.11	-0.26	0.03	0.03	-0.10	-0.23	0.04	0.03	-0.09	-0.22	0.07	0.03
270	-0.10	-0.38	0.07	0.04	-0.10	-0.32	0.08	0.03	-0.11	-0.49	0.17	0.05	-0.05	-0.27	0.40	0.06	-0.05	-0.25	0.43	0.05
280	-0.12	-0.39	0.18	0.06	-0.15	-0.43	0.11	0.05	-0.14	-0.70	0.26	0.09	-0.05	-0.55	0.52	0.11	-0.08	-0.55	0.47	0.09
290	-0.14	-0.53	0.20	0.07	-0.18	-0.53	0.22	0.05	-0.20	-1.17	0.27	0.12	0.00	-0.62	0.66	0.15	-0.05	-0.67	0.62	0.10
300	-0.17	-0.63	0.24	0.07	-0.20	-0.54	0.07	0.05	-0.27	-1.13	0.18	0.13	-0.01	-0.76	0.64	0.14	-0.05	-0.69	0.58	0.11
310	-0.20	-0.65	0.13	0.08	-0.22	-0.69	0.02	0.06	-0.31	-1.11	0.10	0.14	0.01	-0.61	0.65	0.13	-0.01	-0.66	0.74	0.11
320	-0.23	-0.68	0.10	0.08	-0.23	-0.63	-0.04	0.06	-0.37	-1.10	0.07	0.14	0.08	-0.63	0.74	0.14	0.00	-0.50	0.56	0.12
330	-0.24	-0.77	0.14	0.08	-0.23	-0.59	-0.03	0.06	-0.38	-1.60	0.20	0.14	0.08	-0.45	0.73	0.15	0.01	-0.41	0.66	0.12
340	-0.21	-0.53	0.02	0.07	-0.20	-0.52	-0.01	0.05	-0.36	-1.15	0.10	0.13	0.04	-0.53	0.81	0.14	-0.03	-0.40	0.47	0.10
350	-0.18	-0.54	0.11	0.06	-0.17	-0.55	0.14	0.06	-0.29	-1.06	0.13	0.13	0.00	-0.57	0.64	0.12	-0.03	-0.42	0.40	0.09
360	-0.12	-0.42	0.23	0.06	-0.11	-0.36	0.22	0.06	-0.19	-0.90	0.22	0.10	-0.05	-0.76	0.66	0.11	-0.09	-0.63	0.43	0.08

NEARBY BUILDINGS - WITH STUDY BUILDING

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # M 14 MEAN	MIN	MAX	RMS	TAP # M 15 MEAN	MIN	MAX	RMS	TAP # M 16 MEAN	MIN	MAX	RMS	TAP # M 17 MEAN	MIN	MAX	RMS	TAP # 0 MEAN	MIN	MAX	RMS
10	-0.14	-0.80	0.29	0.08	-0.14	-0.73	0.09	0.06	-0.09	-0.24	-0.01	0.03	-0.11	-0.33	0.12	0.05	0.00	0.00	0.00	0.00
20	-0.09	-0.48	0.12	0.05	-0.09	-0.37	0.06	0.04	-0.09	-0.25	0.02	0.03	-0.08	-0.25	0.09	0.04	0.00	0.00	0.00	0.00
30	-0.07	-0.39	0.10	0.04	-0.06	-0.24	0.08	0.04	-0.07	-0.19	0.02	0.02	-0.06	-0.26	0.11	0.04	0.00	0.00	0.00	0.00
40	-0.05	-0.28	0.09	0.04	-0.03	-0.21	0.12	0.04	-0.05	-0.14	0.03	0.02	-0.03	-0.23	0.18	0.04	0.00	0.00	0.00	0.00
50	-0.01	-0.20	0.11	0.04	-0.01	-0.24	0.16	0.03	-0.02	-0.11	0.07	0.02	-0.01	-0.16	0.17	0.03	0.00	0.00	0.00	0.00
60	0.02	-0.16	0.16	0.04	0.01	-0.23	0.25	0.04	0.00	-0.10	0.09	0.02	0.01	-0.19	0.17	0.04	0.00	0.00	0.00	0.00
70	0.02	-0.18	0.22	0.04	-0.01	-0.23	0.17	0.04	0.01	-0.08	0.11	0.02	-0.04	-0.25	0.17	0.05	0.00	0.00	0.00	0.00
80	0.01	-0.16	0.19	0.04	0.00	-0.17	0.16	0.04	0.02	-0.06	0.11	0.02	-0.01	-0.22	0.17	0.05	0.00	0.00	0.00	0.00
90	0.04	-0.17	0.24	0.05	0.02	-0.19	0.23	0.04	0.04	-0.09	0.15	0.03	0.01	-0.20	0.22	0.05	0.00	0.00	0.00	0.00
100	0.02	-0.21	0.23	0.04	0.00	-0.19	0.18	0.04	0.02	-0.08	0.12	0.02	-0.02	-0.28	0.22	0.05	0.00	0.00	0.00	0.00
110	0.01	-0.18	0.18	0.04	-0.01	-0.20	0.15	0.04	0.01	-0.08	0.10	0.02	-0.01	-0.23	0.17	0.04	0.00	0.00	0.00	0.00
120	-0.01	-0.19	0.15	0.04	-0.01	-0.15	0.16	0.04	0.01	-0.10	0.09	0.02	-0.01	-0.18	0.17	0.04	0.00	0.00	0.00	0.00
130	-0.04	-0.22	0.18	0.04	-0.03	-0.21	0.20	0.04	0.00	-0.09	0.11	0.02	-0.02	-0.19	0.16	0.04	0.00	0.00	0.00	0.00
140	-0.03	-0.18	0.14	0.04	-0.02	-0.23	0.25	0.04	0.01	-0.08	0.13	0.02	-0.02	-0.18	0.19	0.04	0.00	0.00	0.00	0.00
150	-0.02	-0.19	0.22	0.04	-0.01	-0.21	0.20	0.04	0.01	-0.07	0.13	0.02	0.00	-0.17	0.23	0.04	0.00	0.00	0.00	0.00
160	-0.03	-0.26	0.17	0.04	-0.02	-0.20	0.20	0.04	0.01	-0.09	0.13	0.02	0.00	-0.18	0.22	0.04	0.00	0.00	0.00	0.00
170	-0.05	-0.24	0.14	0.04	-0.03	-0.25	0.17	0.04	0.00	-0.12	0.13	0.02	-0.03	-0.22	0.25	0.05	0.00	0.00	0.00	0.00
180	-0.07	-0.26	0.14	0.04	-0.06	-0.23	0.13	0.04	-0.02	-0.13	0.09	0.03	-0.05	-0.22	0.19	0.04	0.00	0.00	0.00	0.00
190	-0.10	-0.32	0.05	0.04	-0.09	-0.31	0.05	0.03	-0.04	-0.12	0.04	0.02	-0.08	-0.24	0.11	0.03	0.00	0.00	0.00	0.00
200	-0.11	-0.29	0.07	0.03	-0.10	-0.24	0.02	0.03	-0.05	-0.12	0.06	0.02	-0.09	-0.25	0.05	0.04	0.00	0.00	0.00	0.00
210	-0.15	-0.32	0.04	0.04	-0.13	-0.29	-0.01	0.03	-0.07	-0.17	0.09	0.02	-0.13	-0.29	0.04	0.04	0.00	0.00	0.00	0.00
220	-0.15	-0.33	0.02	0.04	-0.14	-0.31	-0.01	0.03	-0.08	-0.20	0.04	0.02	-0.14	-0.32	0.01	0.03	0.00	0.00	0.00	0.00
230	-0.13	-0.28	0.07	0.03	-0.13	-0.27	0.01	0.03	-0.07	-0.16	0.07	0.02	-0.13	-0.29	-0.01	0.03	0.00	0.00	0.00	0.00
240	-0.13	-0.36	0.02	0.04	-0.13	-0.33	0.00	0.03	-0.06	-0.17	0.12	0.02	-0.12	-0.32	0.09	0.04	0.00	0.00	0.00	0.00
250	-0.12	-0.31	0.01	0.03	-0.12	-0.26	0.02	0.03	-0.07	-0.19	0.04	0.02	-0.12	-0.42	0.06	0.04	0.00	0.00	0.00	0.00
260	-0.10	-0.23	0.03	0.03	-0.10	-0.24	0.03	0.03	-0.06	-0.15	0.01	0.02	-0.10	-0.24	0.02	0.03	0.00	0.00	0.00	0.00
270	-0.09	-0.42	0.07	0.04	-0.08	-0.35	0.08	0.04	-0.06	-0.15	0.01	0.02	-0.09	-0.23	0.05	0.03	0.00	0.00	0.00	0.00
280	-0.06	-0.88	0.34	0.08	-0.04	-0.77	0.23	0.06	-0.06	-0.23	0.09	0.03	-0.09	-0.33	0.08	0.04	0.00	0.00	0.00	0.00
290	-0.08	-0.67	0.45	0.09	-0.06	-0.76	0.40	0.08	-0.10	-0.25	0.09	0.04	-0.16	-0.42	0.13	0.06	0.00	0.00	0.00	0.00
300	-0.10	-0.70	0.31	0.09	-0.06	-0.67	0.52	0.09	-0.12	-0.25	0.04	0.04	-0.19	-0.47	0.06	0.06	0.00	0.00	0.00	0.00
310	-0.12	-0.81	0.40	0.08	-0.08	-0.48	0.45	0.08	-0.14	-0.31	0.04	0.03	-0.20	-0.46	0.03	0.06	0.00	0.00	0.00	0.00
320	-0.14	-0.82	0.29	0.09	-0.10	-0.64	0.32	0.08	-0.15	-0.31	0.00	0.03	-0.20	-0.45	0.17	0.05	0.00	0.00	0.00	0.00
330	-0.14	-0.99	0.21	0.09	-0.10	-0.49	0.39	0.07	-0.15	-0.26	0.01	0.03	-0.19	-0.48	0.07	0.05	0.00	0.00	0.00	0.00
340	-0.16	-0.80	0.30	0.09	-0.10	-0.51	0.34	0.08	-0.14	-0.26	-0.03	0.02	-0.18	-0.45	0.06	0.04	0.00	0.00	0.00	0.00
350	-0.13	-0.58	0.21	0.08	-0.08	-0.71	0.27	0.07	-0.12	-0.21	-0.02	0.02	-0.14	-0.34	0.05	0.04	0.00	0.00	0.00	0.00
360	-0.12	-0.72	0.22	0.08	-0.10	-0.62	0.25	0.08	-0.09	-0.21	0.01	0.02	-0.11	-0.36	0.09	0.04	0.00	0.00	0.00	0.00

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NEARBY BUILDINGS - EXISTING CONDITIONS

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # J 1 MEAN	MIN	MAX	RMS	TAP # J 2 MEAN	MIN	MAX	RMS	TAP # J 3 MEAN	MIN	MAX	RMS	TAP # J 4 MEAN	MIN	MAX	RMS	TAP # J 5 MEAN	MIN	MAX	RMS
10	0.04	-0.17	0.32	0.04	0.02	-0.25	0.22	0.04	0.04	-0.15	0.23	0.04	0.03	-0.16	0.21	0.04	0.03	-0.25	0.31	0.04
20	0.06	-0.07	0.33	0.04	0.03	-0.15	0.26	0.04	0.05	-0.11	0.25	0.04	0.04	-0.17	0.19	0.04	0.04	-0.13	0.33	0.04
30	0.04	-0.18	0.26	0.04	0.03	-0.23	0.16	0.04	0.04	-0.15	0.26	0.04	0.03	-0.15	0.22	0.04	0.05	-0.14	0.27	0.04
40	0.00	-0.27	0.27	0.05	-0.01	-0.41	0.18	0.04	0.02	-0.21	0.20	0.04	0.02	-0.25	0.17	0.03	0.03	-0.15	0.27	0.04
50	-0.08	-0.38	0.18	0.06	-0.06	-0.36	0.14	0.05	-0.02	-0.23	0.18	0.04	0.00	-0.21	0.14	0.03	0.00	-0.13	0.17	0.03
60	-0.19	-0.60	0.11	0.07	-0.19	-0.72	0.12	0.08	-0.03	-0.32	0.15	0.05	0.00	-0.15	0.13	0.03	0.00	-0.13	0.12	0.03
70	-0.22	-0.54	0.09	0.07	-0.21	-0.65	0.07	0.07	-0.06	-0.27	0.13	0.05	-0.03	-0.16	0.12	0.03	-0.03	-0.17	0.10	0.03
80	-0.24	-0.72	0.07	0.06	-0.23	-0.60	0.06	0.08	-0.11	-0.46	0.09	0.06	-0.06	-0.22	0.10	0.03	-0.06	-0.27	0.06	0.03
90	-0.32	-0.76	0.03	0.08	-0.33	-0.78	0.12	0.10	-0.13	-0.46	0.05	0.05	-0.09	-0.28	0.08	0.04	-0.09	-0.26	0.07	0.03
100	-0.31	-0.69	-0.07	0.08	-0.32	-0.83	0.04	0.11	-0.15	-0.62	0.10	0.06	-0.12	-0.41	0.02	0.04	-0.12	-0.30	0.01	0.04
110	-0.22	-0.59	-0.03	0.06	-0.16	-0.60	0.11	0.10	-0.11	-0.55	0.21	0.06	-0.11	-0.30	0.13	0.04	-0.13	-0.36	0.04	0.04
120	-0.17	-0.41	0.02	0.04	-0.10	-0.50	0.10	0.05	-0.13	-0.45	0.16	0.05	-0.11	-0.28	0.07	0.03	-0.13	-0.39	0.00	0.04
130	-0.16	-0.38	0.02	0.04	-0.11	-0.32	0.13	0.05	-0.15	-0.44	0.20	0.06	-0.12	-0.28	0.19	0.04	-0.13	-0.27	0.07	0.03
140	-0.13	-0.36	0.03	0.04	-0.09	-0.47	0.19	0.05	-0.11	-0.46	0.22	0.06	-0.08	-0.24	0.25	0.04	-0.09	-0.26	0.06	0.03
150	-0.12	-0.56	0.07	0.05	-0.08	-0.45	0.23	0.05	-0.09	-0.48	0.30	0.06	-0.07	-0.25	0.30	0.05	-0.09	-0.45	0.15	0.04
160	-0.09	-0.38	0.08	0.04	-0.07	-0.25	0.35	0.05	-0.09	-0.55	0.37	0.05	-0.07	-0.32	0.33	0.04	-0.08	-0.33	0.12	0.04
170	-0.10	-0.42	0.06	0.04	-0.07	-0.33	0.29	0.05	-0.10	-0.42	0.19	0.05	-0.08	-0.32	0.22	0.05	-0.10	-0.27	0.11	0.04
180	-0.11	-0.40	0.05	0.04	-0.10	-0.41	0.15	0.05	-0.13	-0.47	0.06	0.04	-0.11	-0.26	0.16	0.04	-0.11	-0.30	0.02	0.03
190	-0.12	-0.49	0.06	0.05	-0.11	-0.45	0.29	0.06	-0.15	-0.51	0.18	0.05	-0.13	-0.37	0.18	0.05	-0.14	-0.43	0.10	0.04
200	-0.17	-0.60	0.07	0.05	-0.15	-0.58	0.22	0.07	-0.21	-0.64	0.10	0.05	-0.17	-0.37	0.03	0.04	-0.17	-0.40	0.02	0.04
210	-0.21	-0.56	0.02	0.06	-0.19	-0.50	0.16	0.06	-0.22	-0.49	0.10	0.05	-0.19	-0.36	0.04	0.04	-0.19	-0.43	-0.05	0.04
220	-0.21	-0.53	-0.03	0.05	-0.21	-0.48	-0.01	0.05	-0.20	-0.39	-0.02	0.04	-0.19	-0.35	-0.03	0.04	-0.18	-0.36	-0.01	0.04
230	-0.18	-0.40	-0.03	0.04	-0.18	-0.37	0.02	0.04	-0.17	-0.37	-0.04	0.03	-0.16	-0.29	-0.02	0.03	-0.15	-0.28	-0.03	0.03
240	-0.13	-0.25	0.00	0.03	-0.14	-0.28	-0.04	0.03	-0.13	-0.24	-0.01	0.03	-0.15	-0.31	-0.02	0.03	-0.14	-0.28	0.03	0.03
250	-0.12	-0.30	0.03	0.03	-0.13	-0.33	0.02	0.04	-0.13	-0.30	0.00	0.03	-0.14	-0.37	0.01	0.04	-0.13	-0.35	0.01	0.04
260	-0.10	-0.34	0.09	0.04	-0.11	-0.35	0.11	0.04	-0.11	-0.37	0.05	0.04	-0.12	-0.45	0.06	0.04	-0.11	-0.39	0.10	0.04
270	-0.09	-0.23	0.08	0.03	-0.11	-0.34	0.05	0.04	-0.10	-0.39	0.11	0.05	-0.12	-0.61	0.06	0.05	-0.09	-0.28	0.10	0.04
280	-0.07	-0.24	0.06	0.03	-0.10	-0.24	0.05	0.03	-0.09	-0.26	0.04	0.03	-0.09	-0.33	0.05	0.04	-0.07	-0.23	0.10	0.03
290	-0.07	-0.19	0.08	0.03	-0.09	-0.23	0.03	0.03	-0.09	-0.22	0.04	0.03	-0.08	-0.25	0.03	0.03	-0.07	-0.22	0.10	0.04
300	-0.06	-0.19	0.11	0.03	-0.08	-0.29	0.04	0.03	-0.08	-0.24	0.05	0.03	-0.06	-0.26	0.07	0.03	-0.05	-0.24	0.15	0.03
310	-0.05	-0.20	0.16	0.03	-0.06	-0.23	0.05	0.03	-0.06	-0.19	0.08	0.03	-0.05	-0.24	0.06	0.03	-0.03	-0.20	0.17	0.04
320	-0.04	-0.20	0.15	0.04	-0.06	-0.22	0.05	0.03	-0.04	-0.20	0.09	0.03	-0.03	-0.22	0.11	0.03	-0.01	-0.17	0.26	0.04
330	-0.04	-0.21	0.20	0.04	-0.05	-0.31	0.09	0.03	-0.02	-0.15	0.18	0.04	-0.02	-0.23	0.13	0.03	0.00	-0.19	0.30	0.05
340	-0.03	-0.22	0.16	0.04	-0.04	-0.24	0.12	0.03	0.00	-0.25	0.16	0.04	-0.01	-0.17	0.15	0.04	-0.01	-0.20	0.27	0.05
350	-0.02	-0.23	0.17	0.04	-0.02	-0.20	0.13	0.04	-0.01	-0.18	0.16	0.03	-0.01	-0.20	0.15	0.04	0.00	-0.22	0.25	0.04
360	0.00	-0.23	0.18	0.04	0.00	-0.26	0.21	0.04	0.01	-0.18	0.19	0.04	0.01	-0.27	0.19	0.04	0.02	-0.23	0.31	0.04

NEARBY BUILDINGS - EXISTING CONDITIONS

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # J 6 MEAN	MIN	MAX	RMS	TAP # K 1 MEAN	MIN	MAX	RMS	TAP # K 2 MEAN	MIN	MAX	RMS	TAP # K 3 MEAN	MIN	MAX	RMS	TAP # K 4 MEAN	MIN	MAX	RMS
10	0.02	-0.15	0.16	0.03	-0.08	-0.56	0.18	0.08	-0.02	-0.30	0.18	0.04	-0.04	-0.42	0.16	0.05	-0.07	-0.64	0.16	0.07
20	0.02	-0.18	0.17	0.03	-0.04	-0.52	0.15	0.07	-0.03	-0.29	0.17	0.05	-0.04	-0.41	0.20	0.05	-0.04	-0.64	0.21	0.07
30	0.03	-0.18	0.29	0.04	-0.03	-0.52	0.23	0.06	-0.04	-0.36	0.15	0.04	-0.04	-0.41	0.15	0.05	-0.02	-0.53	0.25	0.06
40	0.02	-0.15	0.25	0.04	-0.03	-0.31	0.17	0.05	-0.06	-0.56	0.15	0.05	-0.05	-0.49	0.12	0.05	-0.01	-0.34	0.19	0.04
50	-0.01	-0.20	0.16	0.04	-0.04	-0.36	0.18	0.05	-0.08	-0.54	0.14	0.06	-0.04	-0.47	0.18	0.06	-0.01	-0.25	0.16	0.04
60	-0.04	-0.24	0.15	0.05	-0.07	-0.43	0.17	0.06	-0.08	-0.60	0.18	0.07	0.02	-0.39	0.23	0.06	0.01	-0.28	0.29	0.05
70	-0.08	-0.34	0.13	0.06	-0.07	-0.38	0.14	0.06	-0.08	-0.48	0.21	0.06	0.00	-0.34	0.18	0.05	-0.03	-0.46	0.16	0.05
80	-0.09	-0.34	0.08	0.05	-0.06	-0.38	0.14	0.05	-0.08	-0.43	0.14	0.05	-0.04	-0.48	0.14	0.06	-0.05	-0.43	0.16	0.05
90	-0.13	-0.49	0.07	0.06	-0.10	-0.45	0.14	0.06	-0.13	-0.47	0.17	0.07	-0.12	-0.61	0.15	0.09	-0.08	-0.50	0.17	0.05
100	-0.14	-0.48	0.12	0.06	-0.11	-0.43	0.11	0.05	-0.14	-0.52	0.23	0.07	-0.18	-0.76	0.13	0.09	-0.11	-0.47	0.23	0.05
110	-0.11	-0.45	0.15	0.05	-0.09	-0.29	0.17	0.04	-0.10	-0.43	0.14	0.05	-0.12	-0.61	0.10	0.06	-0.10	-0.40	0.18	0.05
120	-0.09	-0.34	0.17	0.04	-0.13	-0.62	0.05	0.05	-0.15	-0.41	0.06	0.05	-0.17	-0.60	0.02	0.06	-0.14	-0.60	0.07	0.06
130	-0.10	-0.33	0.12	0.04	-0.18	-0.92	0.12	0.07	-0.23	-0.57	0.03	0.07	-0.23	-0.67	0.05	0.07	-0.22	-0.74	0.08	0.08
140	-0.08	-0.24	0.16	0.04	-0.15	-0.69	0.13	0.06	-0.21	-0.70	0.06	0.08	-0.22	-0.77	0.02	0.08	-0.21	-1.14	0.10	0.09
150	-0.07	-0.24	0.09	0.04	-0.16	-0.44	0.16	0.05	-0.18	-0.72	0.07	0.06	-0.18	-0.70	0.08	0.07	-0.20	-0.77	0.07	0.09
160	-0.08	-0.27	0.07	0.04	-0.16	-0.43	0.05	0.05	-0.17	-0.49	0.06	0.05	-0.16	-0.52	0.10	0.06	-0.20	-0.87	0.18	0.08
170	-0.09	-0.30	0.09	0.04	-0.17	-0.38	0.00	0.04	-0.17	-0.43	0.02	0.04	-0.16	-0.55	0.24	0.06	-0.22	-0.90	0.10	0.09
180	-0.10	-0.30	0.07	0.03	-0.16	-0.34	-0.03	0.03	-0.16	-0.35	-0.01	0.03	-0.15	-0.37	0.20	0.05	-0.18	-0.51	0.09	0.05
190	-0.14	-0.44	0.08	0.05	-0.17	-0.41	0.00	0.04	-0.15	-0.41	0.09	0.04	-0.14	-0.43	0.05	0.05	-0.19	-0.55	0.06	0.05
200	-0.16	-0.41	0.06	0.05	-0.20	-0.49	0.01	0.05	-0.22	-0.71	0.01	0.04	-0.25	-0.58	0.05	0.06	-0.23	-0.82	0.08	0.05
210	-0.18	-0.44	0.02	0.04	-0.23	-0.47	-0.02	0.05	-0.25	-0.67	0.00	0.06	-0.26	-0.55	-0.08	0.05	-0.24	-0.50	-0.05	0.05
220	-0.18	-0.33	-0.03	0.04	-0.21	-0.44	-0.02	0.04	-0.23	-0.58	-0.05	0.06	-0.22	-0.45	-0.05	0.05	-0.22	-0.54	-0.01	0.05
230	-0.15	-0.29	-0.04	0.03	-0.17	-0.41	-0.02	0.04	-0.19	-0.51	-0.02	0.05	-0.18	-0.50	-0.02	0.04	-0.18	-0.53	-0.01	0.05
240	-0.13	-0.36	0.05	0.04	-0.14	-0.36	-0.01	0.03	-0.15	-0.37	-0.02	0.04	-0.15	-0.42	-0.02	0.04	-0.14	-0.56	0.05	0.04
250	-0.13	-0.36	0.05	0.04	-0.15	-0.31	0.00	0.03	-0.16	-0.35	-0.01	0.04	-0.13	-0.37	-0.01	0.03	-0.13	-0.42	0.02	0.03
260	-0.11	-0.34	0.10	0.04	-0.12	-0.24	0.04	0.03	-0.12	-0.24	-0.02	0.03	-0.11	-0.24	-0.02	0.03	-0.12	-0.24	0.05	0.03
270	-0.11	-0.33	0.10	0.01	-0.11	-0.54	0.06	0.04	-0.11	-0.26	0.04	0.03	-0.11	-0.25	0.03	0.03	-0.10	-0.27	0.03	0.03
280	-0.10	-0.22	0.02	0.03	-0.15	-0.60	0.06	0.07	-0.16	-0.48	0.06	0.05	-0.14	-0.32	0.01	0.04	-0.10	-0.32	0.16	0.04
290	-0.09	-0.23	0.08	0.03	-0.17	-0.52	0.05	0.05	-0.26	-0.72	0.04	0.09	-0.20	-0.46	-0.06	0.04	-0.09	-0.37	0.08	0.04
300	-0.08	-0.26	0.04	0.03	-0.17	-0.51	0.07	0.04	-0.33	-0.86	-0.02	0.09	-0.23	-0.45	-0.07	0.04	-0.08	-0.37	0.05	0.04
310	-0.07	-0.18	0.08	0.03	-0.16	-0.59	0.06	0.05	-0.30	-0.77	0.01	0.09	-0.21	-0.45	-0.05	0.04	-0.07	-0.35	0.07	0.04
320	-0.05	-0.23	0.06	0.03	-0.15	-0.71	0.01	0.07	-0.23	-0.70	0.06	0.07	-0.17	-0.50	-0.03	0.04	-0.09	-0.52	0.08	0.05
330	-0.06	-0.23	0.11	0.04	-0.16	-0.63	0.10	0.08	-0.19	-0.72	0.07	0.08	-0.15	-0.50	0.05	0.05	-0.10	-0.60	0.04	0.07
340	-0.05	-0.26	0.14	0.03	-0.20	-0.91	0.08	0.10	-0.12	-0.47	0.11	0.07	-0.14	-0.63	0.07	0.06	-0.10	-0.70	0.12	0.10
350	-0.02	-0.24	0.19	0.03	-0.18	-0.74	0.14	0.09	-0.06	-0.43	0.14	0.05	-0.11	-0.66	0.14	0.06	-0.14	-0.61	0.14	0.08
360	0.00	-0.20	0.19	0.04	-0.15	-0.84	0.22	0.10	-0.02	-0.31	0.18	0.05	-0.07	-0.39	0.12	0.05	-0.11	-0.64	0.12	0.08

NEARBY BUILDINGS - EXISTING CONDITIONS

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # K 5 MEAN	MIN	MAX	RMS	TAP # K 6 MEAN	MIN	MAX	RMS	TAP # K 7 MEAN	MIN	MAX	RMS	TAP # K 8 MEAN	MIN	MAX	RMS	TAP # K 9 MEAN	MIN	MAX	RMS
10	0.09	-0.31	0.48	0.07	0.04	-0.52	0.45	0.09	0.10	-0.11	0.46	0.06	-0.04	-0.24	0.15	0.04	-0.03	-0.51	0.27	0.08
20	0.11	-0.12	0.57	0.06	0.11	-0.41	0.72	0.08	0.11	-0.04	0.56	0.06	-0.04	-0.27	0.15	0.04	0.02	-0.53	0.36	0.09
30	0.10	-0.14	0.48	0.07	0.11	-0.34	0.85	0.09	0.07	-0.18	0.39	0.06	-0.05	-0.29	0.12	0.04	0.06	-0.48	0.51	0.07
40	0.09	-0.16	0.56	0.07	0.17	-0.07	0.73	0.09	0.02	-0.21	0.25	0.05	-0.08	-0.40	0.14	0.05	0.12	-0.15	0.59	0.07
50	0.10	-0.13	0.46	0.08	0.20	-0.06	0.92	0.11	0.00	-0.34	0.21	0.05	-0.07	-0.46	0.16	0.06	0.12	-0.07	0.48	0.06
60	0.13	-0.15	0.48	0.08	0.29	-0.10	0.91	0.13	-0.01	-0.34	0.19	0.05	-0.02	-0.61	0.22	0.07	0.14	-0.05	0.52	0.05
70	0.05	-0.19	0.46	0.07	0.19	-0.26	0.83	0.11	-0.03	-0.34	0.17	0.04	-0.04	-0.51	0.31	0.07	0.15	-0.05	0.68	0.08
80	-0.02	-0.36	0.35	0.06	0.04	-0.29	0.68	0.10	-0.05	-0.25	0.08	0.04	0.00	-0.53	0.27	0.07	0.11	-0.10	0.76	0.08
90	-0.08	-0.46	0.24	0.07	-0.10	-0.54	0.70	0.11	-0.09	-0.39	0.06	0.04	0.08	-0.40	0.46	0.07	0.12	-0.09	0.56	0.08
100	-0.10	-0.34	0.19	0.06	-0.16	-0.46	0.24	0.07	-0.12	-0.45	0.04	0.04	0.02	-0.22	0.29	0.06	0.07	-0.15	0.56	0.08
110	-0.09	-0.33	0.12	0.04	-0.13	-0.33	0.20	0.06	-0.11	-0.28	0.03	0.04	-0.03	-0.26	0.19	0.05	0.04	-0.17	0.39	0.06
120	-0.14	-0.38	0.01	0.04	-0.14	-0.48	0.08	0.04	-0.13	-0.28	0.01	0.03	-0.07	-0.35	0.37	0.07	-0.06	-0.35	0.16	0.06
130	-0.19	-0.42	0.01	0.04	-0.20	-0.53	0.03	0.06	-0.17	-0.39	-0.04	0.04	-0.11	-0.57	0.32	0.08	-0.12	-0.54	0.27	0.08
140	-0.18	-0.53	0.05	0.05	-0.18	-0.55	0.06	0.05	-0.14	-0.28	-0.02	0.03	-0.10	-0.78	0.40	0.10	-0.17	-0.97	0.28	0.10
150	-0.17	-0.46	0.04	0.05	-0.19	-0.68	0.04	0.07	-0.15	-0.29	-0.02	0.03	-0.11	-0.48	0.33	0.07	-0.16	-0.70	0.31	0.09
160	-0.16	-0.43	0.07	0.04	-0.19	-0.64	-0.01	0.06	-0.16	-0.33	0.02	0.03	-0.11	-0.34	0.23	0.05	-0.19	-0.73	0.19	0.08
170	-0.18	-0.46	0.03	0.04	-0.22	-0.72	-0.01	0.07	-0.18	-0.33	-0.04	0.03	-0.13	-0.43	0.28	0.05	-0.22	-0.88	0.25	0.08
180	-0.17	-0.36	-0.02	0.04	-0.19	-0.54	-0.03	0.05	-0.17	-0.29	-0.06	0.03	-0.13	-0.30	0.32	0.04	-0.20	-0.50	0.08	0.05
190	-0.17	-0.43	0.07	0.05	-0.20	-0.50	-0.04	0.05	-0.18	-0.37	-0.05	0.04	-0.08	-0.29	0.31	0.06	-0.23	-0.50	-0.05	0.05
200	-0.22	-0.45	0.09	0.04	-0.23	-0.58	-0.07	0.06	-0.21	-0.36	-0.07	0.03	-0.12	-0.43	0.28	0.07	-0.25	-0.63	-0.09	0.06
210	-0.24	-0.50	-0.04	0.04	-0.23	-0.45	-0.04	0.04	-0.22	-0.36	-0.12	0.03	-0.15	-0.37	0.17	0.07	-0.29	-0.62	-0.10	0.06
220	-0.21	-0.42	-0.07	0.04	-0.21	-0.39	-0.06	0.04	-0.20	-0.36	-0.06	0.03	-0.18	-0.43	0.07	0.05	-0.24	-0.58	-0.07	0.05
230	-0.16	-0.32	-0.04	0.03	-0.15	-0.30	-0.04	0.03	-0.16	-0.31	-0.04	0.03	-0.16	-0.36	0.01	0.04	-0.18	-0.38	-0.04	0.03
240	-0.13	-0.26	-0.03	0.03	-0.12	-0.27	0.01	0.03	-0.13	-0.28	-0.02	0.03	-0.12	-0.29	0.14	0.03	-0.13	-0.34	0.00	0.03
250	-0.13	-0.28	-0.02	0.03	-0.12	-0.25	0.01	0.03	-0.14	-0.28	-0.01	0.03	-0.11	-0.28	0.12	0.04	-0.12	-0.30	0.01	0.03
260	-0.12	-0.23	0.01	0.03	-0.11	-0.23	0.00	0.03	-0.12	-0.23	0.03	0.03	-0.11	-0.23	0.01	0.03	-0.11	-0.34	0.02	0.03
270	-0.11	-0.36	0.02	0.03	-0.11	-0.30	0.03	0.03	-0.10	-0.29	0.10	0.04	-0.10	-0.21	0.01	0.03	-0.11	-0.26	0.03	0.03
280	-0.15	-0.58	0.10	0.06	-0.14	-0.32	-0.02	0.04	-0.09	-0.46	0.28	0.07	-0.10	-0.26	0.04	0.03	-0.12	-0.31	0.03	0.04
290	-0.21	-0.73	0.02	0.06	-0.21	-0.41	-0.07	0.04	-0.04	-0.56	0.25	0.07	-0.12	-0.28	0.02	0.03	-0.14	-0.35	0.01	0.03
300	-0.22	-0.86	0.02	0.07	-0.22	-0.40	-0.07	0.04	-0.05	-0.67	0.24	0.07	-0.12	-0.29	0.01	0.04	-0.15	-0.33	-0.01	0.04
310	-0.20	-0.98	0.03	0.08	-0.22	-0.43	-0.06	0.04	-0.06	-0.66	0.31	0.08	-0.13	-0.28	0.08	0.04	-0.15	-0.40	0.00	0.04
320	-0.17	-0.75	0.20	0.07	-0.19	-0.38	-0.02	0.04	-0.02	-0.65	0.47	0.10	-0.12	-0.35	0.18	0.05	-0.16	-0.38	0.06	0.05
330	-0.13	-0.64	0.28	0.08	-0.17	-0.58	0.03	0.05	0.03	-0.43	0.46	0.08	-0.09	-0.31	0.55	0.06	-0.14	-0.42	0.09	0.05
340	-0.08	-0.59	0.20	0.08	-0.19	-0.66	0.06	0.07	0.07	-0.40	0.59	0.09	-0.07	-0.29	0.40	0.07	-0.14	-0.54	0.11	0.06
350	-0.02	-0.47	0.27	0.08	-0.15	-0.58	0.22	0.08	0.10	-0.17	0.54	0.09	-0.05	-0.31	0.36	0.06	-0.12	-0.49	0.16	0.06
360	0.02	-0.33	0.47	0.07	-0.08	-0.60	0.46	0.10	0.12	-0.16	0.64	0.08	-0.04	-0.26	0.35	0.05	-0.06	-0.44	0.15	0.05

NEARBY BUILDINGS - EXISTING CONDITIONS

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # K 10 MEAN	MIN	MAX	RMS	TAP # K 11 MEAN	MIN	MAX	RMS	TAP # K 12 MEAN	MIN	MAX	RMS	TAP # K 13 MEAN	MIN	MAX	RMS	TAP # K 14 MEAN	MIN	MAX	RMS
10	0.13	-0.12	0.66	0.09	0.07	-0.19	0.50	0.07	0.04	-0.14	0.28	0.04	0.07	-0.18	0.50	0.06	0.04	-0.13	0.25	0.05
20	0.15	-0.05	0.62	0.08	0.10	-0.07	0.55	0.07	0.06	-0.15	0.23	0.04	0.10	-0.14	0.49	0.06	0.06	-0.14	0.32	0.05
30	0.11	-0.06	0.66	0.07	0.11	-0.11	0.65	0.07	0.05	-0.14	0.33	0.04	0.09	-0.07	0.51	0.06	0.06	-0.11	0.44	0.05
40	0.11	-0.10	0.51	0.06	0.12	-0.05	0.47	0.06	0.03	-0.15	0.32	0.05	0.10	-0.07	0.55	0.06	0.07	-0.12	0.30	0.05
50	0.11	-0.13	0.54	0.07	0.13	-0.11	0.62	0.08	0.02	-0.18	0.24	0.04	0.09	-0.08	0.48	0.06	0.08	-0.24	0.35	0.05
60	0.13	-0.11	0.48	0.07	0.17	-0.12	0.68	0.09	0.02	-0.18	0.22	0.04	0.12	-0.15	0.46	0.06	0.12	-0.05	0.35	0.05
70	0.06	-0.27	0.38	0.06	0.13	-0.11	0.54	0.07	-0.03	-0.27	0.15	0.04	0.07	-0.12	0.29	0.05	0.09	-0.09	0.34	0.04
80	-0.03	-0.40	0.23	0.05	0.06	-0.28	0.60	0.09	-0.07	-0.28	0.07	0.04	0.01	-0.28	0.39	0.05	0.04	-0.15	0.32	0.04
90	-0.08	-0.58	0.22	0.06	0.02	-0.35	0.66	0.11	-0.11	-0.44	0.12	0.05	-0.02	-0.41	0.32	0.07	0.02	-0.16	0.44	0.05
100	-0.11	-0.39	0.19	0.05	-0.01	-0.37	0.41	0.09	-0.13	-0.41	0.09	0.05	-0.04	-0.37	0.22	0.07	-0.01	-0.21	0.29	0.05
110	-0.11	-0.31	0.07	0.04	-0.04	-0.33	0.33	0.07	-0.11	-0.29	0.04	0.04	-0.06	-0.34	0.22	0.05	-0.02	-0.21	0.29	0.04
120	-0.15	-0.37	-0.02	0.04	-0.09	-0.40	0.16	0.05	-0.13	-0.29	0.00	0.03	-0.12	-0.33	0.03	0.04	-0.07	-0.24	0.11	0.04
130	-0.20	-0.45	-0.03	0.04	-0.13	-0.43	0.28	0.06	-0.18	-0.40	-0.04	0.04	-0.17	-0.44	0.04	0.04	-0.12	-0.34	0.11	0.05
140	-0.20	-0.53	-0.03	0.05	-0.15	-0.57	0.17	0.05	-0.14	-0.38	0.01	0.04	-0.17	-0.53	0.01	0.05	-0.14	-0.35	0.04	0.04
150	-0.18	-0.41	-0.03	0.04	-0.16	-0.46	0.01	0.04	-0.15	-0.34	-0.04	0.03	-0.17	-0.67	0.01	0.04	-0.15	-0.33	0.08	0.04
160	-0.17	-0.39	-0.05	0.03	-0.16	-0.35	-0.01	0.04	-0.15	-0.28	-0.03	0.03	-0.17	-0.50	-0.03	0.04	-0.14	-0.38	0.08	0.04
170	-0.19	-0.35	-0.07	0.03	-0.19	-0.37	-0.05	0.04	-0.17	-0.36	-0.03	0.03	-0.20	-0.47	-0.06	0.04	-0.15	-0.31	0.31	0.04
180	-0.17	-0.34	-0.01	0.03	-0.17	-0.32	-0.03	0.03	-0.16	-0.32	-0.03	0.03	-0.18	-0.33	-0.04	0.03	-0.15	-0.34	0.05	0.03
190	-0.19	-0.34	-0.08	0.03	-0.17	-0.36	-0.03	0.04	-0.17	-0.34	-0.05	0.03	-0.19	-0.43	-0.04	0.04	-0.16	-0.42	0.00	0.04
200	-0.22	-0.47	-0.08	0.04	-0.22	-0.37	-0.05	0.04	-0.20	-0.37	-0.05	0.04	-0.24	-0.47	-0.07	0.04	-0.20	-0.47	0.05	0.05
210	-0.24	-0.42	-0.09	0.04	-0.23	-0.41	-0.02	0.04	-0.21	-0.36	-0.07	0.03	-0.25	-0.46	-0.09	0.04	-0.23	-0.57	0.01	0.05
220	-0.20	-0.39	-0.01	0.04	-0.20	-0.38	0.05	0.04	-0.20	-0.34	-0.05	0.03	-0.21	-0.47	-0.07	0.04	-0.21	-0.42	-0.05	0.04
230	-0.16	-0.29	-0.03	0.03	-0.17	-0.29	-0.01	0.03	-0.16	-0.29	-0.04	0.03	-0.17	-0.34	-0.06	0.04	-0.16	-0.34	-0.02	0.04
240	-0.12	-0.27	0.01	0.03	-0.12	-0.23	-0.02	0.03	-0.13	-0.24	-0.03	0.03	-0.13	-0.24	-0.01	0.03	-0.12	-0.23	-0.01	0.03
250	-0.13	-0.24	-0.01	0.03	-0.12	-0.24	0.04	0.03	-0.13	-0.26	-0.02	0.03	-0.12	-0.27	-0.02	0.03	-0.12	-0.25	0.00	0.03
260	-0.11	-0.22	0.04	0.03	-0.11	-0.24	0.01	0.03	-0.12	-0.24	0.02	0.03	-0.11	-0.22	0.00	0.03	-0.11	-0.22	0.01	0.03
270	-0.10	-0.27	0.10	0.03	-0.11	-0.28	0.02	0.03	-0.11	-0.32	0.04	0.03	-0.11	-0.28	0.02	0.03	-0.10	-0.27	0.04	0.03
280	-0.12	-0.51	0.46	0.06	-0.15	-0.42	0.03	0.05	-0.12	-0.40	0.09	0.05	-0.14	-0.56	0.04	0.06	-0.12	-0.32	0.02	0.04
290	-0.15	-0.47	0.26	0.06	-0.19	-0.46	-0.03	0.04	-0.13	-0.38	0.11	0.05	-0.19	-0.80	0.02	0.07	-0.13	-0.30	0.02	0.04
300	-0.14	-0.51	0.38	0.07	-0.19	-0.43	-0.03	0.04	-0.12	-0.34	0.08	0.04	-0.17	-0.66	0.04	0.07	-0.12	-0.29	0.04	0.04
310	-0.10	-0.41	0.36	0.07	-0.16	-0.54	0.02	0.04	-0.10	-0.27	0.10	0.04	-0.14	-0.59	0.09	0.05	-0.11	-0.31	0.02	0.03
320	-0.04	-0.29	0.62	0.09	-0.15	-0.57	0.03	0.05	-0.08	-0.26	0.12	0.04	-0.13	-0.61	0.09	0.05	-0.10	-0.31	0.04	0.03
330	0.03	-0.29	0.63	0.11	-0.13	-0.53	0.11	0.05	-0.04	-0.22	0.15	0.04	-0.10	-0.50	0.24	0.05	-0.09	-0.43	0.05	0.04
340	0.12	-0.26	0.60	0.11	-0.11	-0.46	0.21	0.06	-0.02	-0.19	0.17	0.04	-0.05	-0.34	0.34	0.06	-0.08	-0.42	0.11	0.05
350	0.12	-0.17	0.53	0.09	-0.07	-0.48	0.28	0.06	0.00	-0.21	0.23	0.04	-0.02	-0.43	0.42	0.07	-0.07	-0.37	0.16	0.05
360	0.12	-0.16	0.66	0.08	-0.02	-0.36	0.40	0.06	0.02	-0.14	0.27	0.04	0.01	-0.23	0.38	0.06	-0.03	-0.38	0.18	0.05

NEARBY BUILDINGS - EXISTING CONDITIONS

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # K 15 MEAN	MIN	MAX	RMS	TAP # L 1 MEAN	MIN	MAX	RMS	TAP # L 2 MEAN	MIN	MAX	RMS	TAP # L 3 MEAN	MIN	MAX	RMS	TAP # L 4 MEAN	MIN	MAX	RMS
10	0.04	-0.17	0.32	0.05	-0.12	-0.94	0.22	0.12	-0.37	-1.01	0.40	0.16	0.35	-0.12	1.01	0.14	0.36	-0.06	0.99	0.13
20	0.06	-0.19	0.33	0.04	0.01	-0.68	0.34	0.07	-0.06	-1.09	0.64	0.19	0.37	-0.02	0.95	0.13	0.27	-0.13	0.78	0.11
30	0.06	-0.19	0.33	0.04	0.11	-0.27	0.52	0.10	0.19	-0.79	0.73	0.17	0.28	-0.43	0.84	0.15	0.17	-0.10	0.72	0.10
40	0.05	-0.27	0.39	0.05	0.23	-0.12	0.75	0.11	0.35	-0.22	0.95	0.13	0.21	-0.66	0.79	0.15	0.12	-0.14	0.52	0.08
50	0.05	-0.31	0.36	0.05	0.28	-0.05	0.81	0.12	0.39	-0.01	0.91	0.12	-0.05	-1.20	0.54	0.18	0.04	-0.67	0.34	0.07
60	0.07	-0.19	0.35	0.05	0.55	0.14	0.95	0.10	0.51	0.14	0.83	0.09	-0.40	-0.88	-0.01	0.11	-0.11	-0.82	0.27	0.14
70	0.01	-0.27	0.20	0.05	0.56	0.09	0.95	0.11	0.38	-0.11	0.77	0.09	-0.53	-1.28	-0.02	0.12	-0.44	-1.02	0.06	0.13
80	-0.05	-0.33	0.16	0.06	0.54	-0.06	0.92	0.12	0.31	-0.14	0.70	0.10	-0.34	-0.94	0.04	0.09	-0.39	-1.06	0.06	0.11
90	-0.14	-0.68	0.09	0.07	0.55	-0.01	0.99	0.11	0.24	-0.04	0.58	0.07	-0.29	-0.55	-0.05	0.06	-0.32	-0.69	-0.08	0.07
100	-0.15	-0.52	0.10	0.07	0.26	-0.16	0.79	0.13	0.08	-0.29	0.47	0.09	-0.23	-0.69	0.04	0.07	-0.25	-1.02	0.14	0.08
110	-0.12	-0.53	0.10	0.05	0.07	-0.33	0.71	0.11	-0.02	-0.27	0.47	0.08	-0.16	-0.48	0.02	0.05	-0.17	-0.65	0.08	0.06
120	-0.13	-0.33	0.01	0.04	-0.04	-0.69	0.35	0.07	-0.15	-0.36	0.05	0.04	-0.23	-0.57	-0.03	0.05	-0.24	-0.55	-0.05	0.05
130	-0.18	-0.52	-0.03	0.04	-0.02	-0.91	0.26	0.06	-0.23	-0.38	-0.07	0.04	-0.35	-0.57	-0.13	0.05	-0.46	-0.64	-0.13	0.05
140	-0.14	-0.42	0.01	0.04	-0.13	-1.22	0.19	0.14	-0.21	-0.44	-0.05	0.04	-0.28	-0.53	-0.10	0.05	-0.29	-0.59	-0.09	0.05
150	-0.16	-0.47	0.00	0.04	-0.41	-1.36	0.24	0.23	-0.26	-0.80	-0.04	0.06	-0.31	-0.85	-0.01	0.07	-0.31	-0.67	-0.08	0.06
160	-0.16	-0.41	0.00	0.04	-0.59	-1.44	0.09	0.18	-0.35	-1.28	0.01	0.11	-0.35	-0.99	-0.08	0.10	-0.34	-0.79	-0.12	0.07
170	-0.19	-0.73	-0.04	0.05	-0.19	-1.31	-0.03	0.15	-0.48	-1.30	-0.08	0.14	-0.37	-1.16	-0.02	0.10	-0.35	-1.30	-0.10	0.08
180	-0.17	-0.41	-0.01	0.04	-0.42	-1.15	-0.09	0.11	-0.41	-1.10	-0.07	0.11	-0.31	-0.74	-0.06	0.07	-0.30	-0.72	-0.10	0.06
190	-0.18	-0.41	-0.03	0.04	-0.32	-0.98	-0.05	0.08	-0.35	-1.00	-0.09	0.09	-0.28	-0.66	0.01	0.05	-0.27	-0.57	-0.08	0.05
200	-0.22	-0.50	-0.04	0.05	-0.30	-0.82	-0.09	0.07	-0.31	-0.91	-0.12	0.07	-0.28	-0.62	-0.06	0.05	-0.29	-0.69	-0.09	0.05
210	-0.23	-0.55	-0.05	0.05	-0.30	-0.70	-0.10	0.06	-0.31	-0.79	-0.10	0.06	-0.30	-0.71	-0.13	0.06	-0.29	-0.63	-0.10	0.05
220	-0.21	-0.45	-0.06	0.04	-0.31	-0.77	-0.10	0.06	-0.32	-0.70	-0.08	0.06	-0.34	-0.86	-0.12	0.08	-0.32	-0.74	-0.12	0.06
230	-0.16	-0.31	-0.02	0.03	-0.25	-0.57	-0.07	0.05	-0.27	-0.62	-0.08	0.05	-0.30	-0.73	-0.09	0.07	-0.28	-0.75	-0.07	0.06
240	-0.13	-0.25	-0.02	0.03	-0.17	-0.43	-0.01	0.04	-0.18	-0.37	-0.04	0.03	-0.22	-0.59	-0.05	0.06	-0.20	-0.50	-0.04	0.05
250	-0.13	-0.27	-0.01	0.03	-0.13	-0.38	0.02	0.04	-0.14	-0.31	-0.01	0.03	-0.14	-0.69	0.01	0.04	-0.14	-0.32	-0.01	0.03
260	-0.11	-0.26	0.03	0.03	-0.12	-0.36	0.03	0.03	-0.13	-0.43	-0.01	0.03	-0.13	-0.55	0.04	0.04	-0.13	-0.34	0.03	0.04
270	-0.11	-0.26	0.03	0.04	-0.12	-0.68	0.02	0.04	-0.13	-0.57	-0.02	0.03	-0.12	-0.32	0.06	0.04	-0.11	-0.38	0.21	0.05
280	-0.12	-0.37	0.04	0.04	-0.16	-0.39	-0.03	0.04	-0.16	-0.53	-0.04	0.04	-0.11	-0.32	0.14	0.05	-0.05	-0.37	0.41	0.08
290	-0.14	-0.38	0.01	0.04	-0.29	-0.58	-0.09	0.05	-0.27	-0.55	-0.10	0.05	-0.12	-0.37	0.10	0.05	0.06	-0.28	0.49	0.08
300	-0.13	-0.37	0.02	0.04	-0.34	-0.63	-0.16	0.05	-0.34	-0.56	-0.16	0.04	-0.09	-0.30	0.21	0.05	0.17	-0.13	0.63	0.09
310	-0.11	-0.40	0.05	0.04	-0.35	-0.61	-0.16	0.05	-0.35	-0.55	-0.21	0.04	-0.04	-0.29	0.27	0.06	0.26	-0.11	0.76	0.11
320	-0.10	-0.31	0.05	0.04	-0.36	-0.74	-0.14	0.05	-0.34	-0.56	-0.17	0.04	0.04	-0.25	0.51	0.08	0.31	-0.08	0.90	0.13
330	-0.07	-0.28	0.12	0.01	-0.37	-0.82	-0.15	0.07	-0.36	-0.67	-0.16	0.05	0.11	-0.24	0.69	0.10	0.32	-0.05	0.93	0.13
340	-0.07	-0.28	0.10	0.04	-0.42	-1.33	-0.08	0.12	-0.39	-0.96	-0.10	0.08	0.19	-0.21	0.64	0.11	0.29	-0.05	1.03	0.14
350	-0.05	-0.29	0.18	0.04	-0.52	-1.43	0.09	0.16	-0.53	-1.27	-0.12	0.15	0.24	-0.19	0.73	0.12	0.40	0.00	1.00	0.15
360	-0.03	-0.26	0.19	0.05	-0.34	-1.44	0.11	0.20	-0.58	-1.41	0.03	0.16	0.27	-0.20	0.98	0.14	0.36	-0.06	0.90	0.13

NEARBY BUILDINGS - EXISTING CONDITIONS

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # L 5 MEAN	MIN	MAX	RMS	TAP # L 6 MEAN	MIN	MAX	RMS	TAP # L 7 MEAN	MIN	MAX	RMS	TAP # L 8 MEAN	MIN	MAX	RMS	TAP # L 9 MEAN	MIN	MAX	RMS
10	-0.31	-1.16	-0.04	0.10	-0.15	-1.20	0.22	0.14	-0.37	-1.20	0.49	0.19	0.29	-0.12	0.96	0.15	0.27	-0.11	0.93	0.13
20	-0.29	-1.25	-0.05	0.09	0.00	-0.71	0.37	0.07	-0.08	-1.16	0.57	0.20	0.32	-0.16	0.83	0.13	0.21	-0.15	0.69	0.11
30	-0.23	-1.00	0.01	0.09	0.07	-0.23	0.46	0.08	0.14	-0.72	0.81	0.16	0.22	-0.37	0.75	0.12	0.13	-0.17	0.74	0.10
40	-0.22	-0.79	0.04	0.08	0.17	-0.12	0.71	0.10	0.28	-0.44	0.96	0.13	0.17	-0.65	0.75	0.13	0.08	-0.16	0.45	0.07
50	-0.24	-0.91	0.01	0.09	0.24	-0.10	0.76	0.11	0.32	-0.07	0.94	0.13	-0.01	-0.83	0.55	0.19	0.03	-0.66	0.29	0.07
60	-0.32	-0.71	0.01	0.07	0.46	0.04	0.83	0.11	0.43	0.00	0.92	0.12	-0.40	-1.33	0.38	0.15	-0.06	-1.11	0.30	0.15
70	-0.42	-1.52	0.18	0.13	0.45	-0.04	0.94	0.13	0.36	-0.18	0.81	0.13	-0.55	-1.87	0.12	0.16	-0.35	-1.27	0.21	0.20
80	-0.51	-1.74	0.33	0.21	0.41	-0.12	0.95	0.15	0.21	-0.43	0.65	0.12	-0.45	-1.40	-0.04	0.14	-0.44	-1.35	0.16	0.16
90	-0.45	-1.43	0.29	0.24	0.46	-0.03	0.87	0.11	0.17	-0.27	0.55	0.09	-0.36	-0.73	-0.02	0.08	-0.39	-0.89	-0.04	0.08
100	-0.11	-0.99	0.27	0.16	0.20	-0.21	0.84	0.11	0.04	-0.33	0.53	0.10	-0.27	-0.85	-0.01	0.08	-0.29	-0.82	-0.04	0.08
110	0.05	-0.59	0.72	0.09	0.02	-0.41	0.61	0.08	-0.05	-0.30	0.44	0.07	-0.18	-0.83	0.06	0.06	-0.20	-0.76	0.04	0.06
120	0.24	-0.20	1.00	0.14	-0.07	-0.66	0.16	0.06	-0.16	-0.42	0.07	0.05	-0.27	-0.66	-0.04	0.07	-0.31	-0.79	-0.09	0.07
130	0.36	-0.18	0.93	0.15	-0.08	-0.67	0.20	0.07	-0.26	-0.49	-0.03	0.05	-0.40	-0.91	-0.14	0.07	-0.44	-0.89	-0.21	0.08
140	0.33	-0.06	0.91	0.14	-0.20	-1.16	0.19	0.16	-0.23	-0.73	0.02	0.06	-0.31	-1.02	-0.07	0.07	-0.33	-0.87	-0.09	0.08
150	0.33	-0.15	0.87	0.14	-0.40	-1.38	0.20	0.22	-0.28	-1.26	0.06	0.10	-0.30	-0.89	-0.05	0.08	-0.31	-0.77	-0.04	0.07
160	0.27	-0.21	0.88	0.15	-0.53	-1.67	0.19	0.21	-0.38	-1.47	0.04	0.16	-0.35	-1.09	-0.06	0.11	-0.32	-0.74	-0.08	0.08
170	0.28	-0.21	0.82	0.13	-0.53	-1.63	0.02	0.15	-0.50	-1.60	0.13	0.17	-0.37	-1.29	-0.06	0.10	-0.34	-0.83	-0.11	0.08
180	0.08	-0.24	0.81	0.12	-0.46	-1.08	-0.09	0.12	-0.41	-1.04	0.01	0.12	-0.34	-0.85	-0.07	0.09	-0.30	-0.84	-0.03	0.07
190	-0.01	-0.25	0.46	0.08	-0.35	-1.02	-0.01	0.09	-0.35	-0.94	0.02	0.09	-0.29	-0.64	-0.08	0.06	-0.27	-1.07	-0.09	0.06
200	-0.04	-0.31	0.57	0.09	-0.31	-1.02	-0.07	0.07	-0.32	-0.85	-0.11	0.07	-0.29	-0.68	-0.10	0.05	-0.29	-0.70	-0.09	0.06
210	-0.12	-0.31	0.31	0.05	-0.32	-0.83	-0.14	0.06	-0.33	-0.96	-0.09	0.07	-0.32	-0.68	-0.06	0.07	-0.31	-0.64	-0.14	0.05
220	-0.15	-0.36	0.09	0.05	-0.34	-1.62	-0.13	0.08	-0.36	-1.01	-0.10	0.08	-0.38	-0.89	-0.10	0.09	-0.37	-0.95	-0.12	0.07
230	-0.15	-0.39	0.06	0.04	-0.29	-0.65	-0.08	0.07	-0.30	-0.71	-0.02	0.07	-0.35	-0.92	-0.11	0.09	-0.33	-0.79	-0.04	0.08
240	-0.12	-0.33	0.10	0.04	-0.18	-0.46	-0.03	0.04	-0.20	-0.45	-0.05	0.05	-0.23	-0.61	-0.04	0.06	-0.23	-0.63	-0.04	0.06
250	-0.10	-0.30	0.24	0.05	-0.13	-0.36	0.01	0.04	-0.13	-0.37	0.01	0.04	-0.13	-0.33	0.00	0.04	-0.13	-0.43	0.00	0.04
260	-0.11	-0.35	0.06	0.04	-0.12	-0.32	0.01	0.03	-0.12	-0.33	-0.01	0.03	-0.12	-0.29	0.01	0.03	-0.12	-0.32	0.03	0.03
270	-0.12	-0.31	0.09	0.03	-0.12	-0.28	0.02	0.03	-0.12	-0.52	0.02	0.04	-0.11	-0.29	0.06	0.03	-0.12	-0.45	0.14	0.04
280	-0.19	-0.71	0.02	0.07	-0.17	-0.52	-0.01	0.05	-0.15	-0.50	-0.02	0.05	-0.11	-0.35	0.14	0.04	-0.06	-0.33	0.33	0.06
290	-0.39	-0.79	-0.13	0.09	-0.31	-0.71	-0.12	0.07	-0.28	-0.75	-0.04	0.06	-0.15	-0.41	0.11	0.05	0.01	-0.34	0.50	0.08
300	-0.42	-1.06	-0.15	0.08	-0.37	-0.67	-0.18	0.06	-0.35	-0.58	-0.14	0.06	-0.12	-0.37	0.17	0.06	0.12	-0.22	0.51	0.10
310	-0.42	-0.90	-0.16	0.07	-0.40	-0.73	-0.13	0.06	-0.38	-0.76	-0.12	0.06	-0.09	-0.34	0.30	0.07	0.18	-0.12	0.66	0.09
320	-0.38	-0.91	-0.17	0.07	-0.41	-0.92	-0.15	0.08	-0.39	-0.79	-0.11	0.07	-0.03	-0.33	0.38	0.08	0.24	-0.12	0.87	0.13
330	-0.37	-0.67	-0.10	0.07	-0.43	-0.93	-0.18	0.08	-0.40	-0.79	-0.17	0.08	0.03	-0.32	0.55	0.10	0.28	-0.07	0.85	0.12
340	-0.36	-0.86	-0.11	0.08	-0.48	-1.16	-0.10	0.12	-0.45	-1.30	-0.13	0.10	0.13	-0.20	0.64	0.10	0.36	-0.07	0.98	0.13
350	-0.34	-1.11	-0.02	0.10	-0.52	-1.54	0.02	0.17	-0.54	-1.69	-0.10	0.15	0.17	-0.28	0.76	0.12	0.33	-0.06	1.00	0.14
360	-0.31	-0.96	-0.07	0.10	-0.36	-1.35	0.13	0.20	-0.54	-1.61	0.24	0.18	0.18	-0.24	0.69	0.14	0.27	-0.08	0.87	0.13

NEARBY BUILDINGS - EXISTING CONDITIONS

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # L 10 MEAN	MIN	MAX	RMS	TAP # L 11 MEAN	MIN	MAX	RMS	TAP # L 12 MEAN	MIN	MAX	RMS	TAP # L 13 MEAN	MIN	MAX	RMS	TAP # L 14 MEAN	MIN	MAX	RMS
10	-0.12	-0.95	0.19	0.09	-0.30	-1.48	0.40	0.19	0.18	-0.20	0.82	0.11	0.19	-0.11	0.75	0.11	-0.10	-0.43	0.05	0.05
20	-0.03	-0.59	0.32	0.08	-0.12	-0.38	0.52	0.18	0.20	-0.19	0.77	0.11	0.15	-0.11	0.55	0.09	-0.07	-0.51	0.20	0.05
30	0.03	-0.30	0.49	0.08	0.06	-0.62	0.75	0.15	0.17	-0.21	0.62	0.09	0.10	-0.11	0.61	0.08	-0.06	-0.75	0.23	0.08
40	0.09	-0.14	0.58	0.08	0.20	-0.19	0.77	0.11	0.15	-0.64	0.56	0.10	0.07	-0.26	0.45	0.06	0.00	-0.51	0.21	0.06
50	0.13	-0.16	0.64	0.09	0.18	-0.24	0.84	0.11	0.04	-0.96	0.59	0.15	0.04	-0.53	0.29	0.08	0.02	-0.19	0.24	0.05
60	0.31	-0.06	0.76	0.10	0.28	-0.14	0.79	0.10	-0.26	-1.33	0.40	0.19	-0.01	-0.79	0.38	0.09	0.09	-0.13	0.36	0.05
70	0.31	-0.05	0.88	0.12	0.27	-0.35	0.77	0.13	-0.48	-2.01	0.20	0.22	-0.08	-1.11	0.30	0.14	0.06	-0.16	0.27	0.04
80	0.23	-0.23	0.80	0.11	0.08	-0.34	0.62	0.10	-0.47	-2.16	0.19	0.20	-0.26	-1.12	0.34	0.21	0.05	-0.12	0.30	0.05
90	0.34	-0.17	0.98	0.12	0.04	-0.40	0.39	0.08	-0.49	-1.69	0.02	0.12	-0.50	-1.26	0.29	0.13	0.08	-0.15	0.44	0.07
100	0.17	-0.14	0.88	0.10	-0.02	-0.37	0.46	0.09	-0.37	-1.07	0.03	0.11	-0.39	-1.28	-0.05	0.12	0.06	-0.16	0.32	0.05
110	0.01	-0.31	0.54	0.07	-0.08	-0.34	0.30	0.06	-0.23	-0.85	0.04	0.08	-0.24	-1.05	0.00	0.08	0.04	-0.20	0.24	0.04
120	-0.09	-0.58	0.20	0.06	-0.20	-0.48	0.06	0.06	-0.36	-1.27	-0.01	0.11	-0.33	-0.87	-0.03	0.10	0.02	-0.18	0.45	0.05
130	-0.15	-0.68	0.21	0.09	-0.30	-0.84	0.03	0.07	-0.51	-1.75	-0.06	0.16	-0.47	-1.14	0.08	0.13	0.02	-0.17	0.40	0.06
140	-0.24	-1.15	0.09	0.14	-0.26	-0.65	0.00	0.07	-0.39	-1.24	0.02	0.13	-0.37	-1.01	0.02	0.11	0.05	-0.16	0.41	0.07
150	-0.31	-1.19	0.06	0.16	-0.26	-0.97	0.05	0.09	-0.32	-1.29	-0.04	0.12	-0.32	-0.86	0.10	0.09	0.01	-0.24	0.41	0.06
160	-0.39	-1.24	0.07	0.19	-0.28	-1.08	0.11	0.12	-0.31	-1.26	-0.03	0.12	-0.30	-0.85	0.11	0.08	-0.02	-0.37	0.34	0.06
170	-0.51	-1.63	0.17	0.19	-0.37	-1.12	0.07	0.15	-0.34	-1.03	0.13	0.12	-0.34	-1.21	0.04	0.11	-0.02	-0.42	0.31	0.06
180	-0.41	-1.24	0.05	0.14	-0.30	-1.02	-0.01	0.10	-0.29	-0.96	-0.06	0.09	-0.28	-0.86	-0.02	0.07	-0.05	-0.39	0.32	0.05
190	-0.39	-1.08	-0.12	0.10	-0.34	-0.90	-0.01	0.09	-0.30	-0.71	-0.08	0.07	-0.28	-1.02	-0.05	0.07	-0.10	-0.26	0.16	0.05
200	-0.37	-0.99	-0.10	0.09	-0.33	-0.83	-0.09	0.07	-0.32	-0.70	-0.02	0.07	-0.34	-1.26	-0.11	0.09	-0.13	-0.44	0.16	0.05
210	-0.39	-0.96	-0.12	0.09	-0.36	-0.82	-0.09	0.07	-0.37	-0.87	-0.04	0.08	-0.39	-1.71	-0.11	0.11	-0.11	-0.35	0.18	0.05
220	-0.43	-1.35	-0.12	0.11	-0.37	-0.90	-0.06	0.09	-0.40	-1.03	-0.06	0.10	-0.46	-1.37	-0.11	0.13	-0.11	-0.33	0.12	0.04
230	-0.34	-1.16	-0.04	0.10	-0.24	-0.67	-0.03	0.07	-0.29	-0.90	0.04	0.09	-0.38	-1.04	0.06	0.11	-0.11	-0.23	0.06	0.03
240	-0.20	-0.50	-0.04	0.05	-0.19	-0.53	-0.03	0.05	-0.20	-0.68	0.00	0.06	-0.26	-0.80	0.03	0.09	-0.12	-0.25	0.02	0.03
250	-0.13	-0.44	0.00	0.04	-0.13	-0.31	-0.01	0.03	-0.14	-0.37	0.00	0.04	-0.14	-0.49	-0.01	0.04	-0.11	-0.39	0.02	0.04
260	-0.12	-0.31	0.02	0.03	-0.11	-0.35	0.00	0.03	-0.12	-0.26	0.00	0.03	-0.12	-0.29	0.01	0.03	-0.12	-0.30	0.03	0.03
270	-0.10	-0.30	0.03	0.03	-0.11	-0.31	0.04	0.03	-0.10	-0.26	0.04	0.03	-0.11	-0.23	0.04	0.03	-0.11	-0.26	0.09	0.03
280	-0.15	-0.41	0.01	0.05	-0.15	-0.79	0.00	0.05	-0.11	-0.38	0.29	0.04	-0.09	-0.27	0.29	0.04	-0.10	-0.29	0.02	0.04
290	-0.36	-1.47	-0.09	0.11	-0.33	-1.00	-0.04	0.10	-0.16	-0.50	0.17	0.06	-0.03	-0.28	0.37	0.07	-0.14	-0.48	0.06	0.04
300	-0.48	-1.13	-0.13	0.10	-0.45	-1.49	-0.19	0.09	-0.17	-0.48	0.10	0.06	0.04	-0.29	0.54	0.09	-0.16	-0.44	0.02	0.05
310	-0.50	-1.55	-0.15	0.11	-0.50	-1.50	-0.21	0.10	-0.15	-0.41	0.25	0.06	0.08	-0.20	0.53	0.09	-0.20	-0.73	0.03	0.07
320	-0.53	-1.44	-0.12	0.12	-0.50	-1.38	-0.18	0.11	-0.10	-0.38	0.30	0.07	0.11	-0.26	0.66	0.11	-0.20	-0.78	0.01	0.06
330	-0.54	-1.52	-0.11	0.13	-0.52	-1.73	-0.14	0.12	-0.03	-0.32	0.34	0.09	0.16	-0.15	0.80	0.10	-0.19	-0.73	0.04	0.06
340	-0.54	-1.36	0.07	0.14	-0.55	-1.87	-0.21	0.14	0.04	-0.36	0.49	0.09	0.21	-0.16	0.79	0.10	-0.17	-0.56	0.01	0.05
350	-0.47	-1.44	0.04	0.18	-0.60	-2.22	-0.02	0.19	0.09	-0.30	0.63	0.11	0.22	-0.12	0.77	0.11	-0.14	-0.34	0.01	0.04
360	-0.24	-1.35	0.09	0.15	-0.49	-2.09	0.18	0.19	0.11	-0.20	0.72	0.11	0.18	-0.09	0.66	0.10	-0.11	-0.37	0.05	0.04

NEARBY BUILDINGS - EXISTING CONDITIONS

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # L 15 MEAN	MIN	MAX	RMS	TAP # L 16 MEAN	MIN	MAX	RMS	TAP # L 17 MEAN	MIN	MAX	RMS	TAP # L 18 MEAN	MIN	MAX	RMS	TAP # L 19 MEAN	MIN	MAX	RMS
10	-0.08	-0.31	0.26	0.05	-0.09	-0.33	0.10	0.04	-0.02	-0.40	0.33	0.07	0.09	-0.22	0.62	0.08	0.12	-0.17	0.56	0.10
20	-0.04	-0.28	0.22	0.05	-0.06	-0.24	0.12	0.04	0.00	-0.34	0.53	0.08	0.11	-0.16	0.58	0.08	0.10	-0.19	0.61	0.08
30	-0.01	-0.21	0.28	0.05	-0.01	-0.16	0.24	0.04	0.04	-0.34	0.39	0.07	0.09	-0.27	0.51	0.07	0.05	-0.14	0.49	0.06
40	0.03	-0.14	0.36	0.05	0.02	-0.13	0.28	0.04	0.08	-0.27	0.65	0.07	0.11	-0.18	0.53	0.08	0.04	-0.17	0.36	0.06
50	0.06	-0.13	0.36	0.05	0.07	-0.13	0.35	0.05	0.08	-0.34	0.59	0.06	0.07	-0.40	0.45	0.07	0.04	-0.14	0.34	0.05
60	0.14	-0.08	0.38	0.05	0.16	-0.04	0.40	0.05	0.17	-0.03	0.60	0.06	0.09	-0.26	0.40	0.06	0.03	-0.17	0.29	0.05
70	0.11	-0.08	0.46	0.05	0.13	-0.06	0.39	0.05	0.13	-0.06	0.52	0.06	0.08	-0.60	0.41	0.06	-0.02	-0.27	0.36	0.05
80	0.05	-0.29	0.24	0.05	0.09	-0.07	0.29	0.05	0.07	-0.12	0.44	0.05	0.04	-0.40	0.48	0.06	-0.03	-0.49	0.38	0.07
90	0.08	-0.20	0.53	0.08	0.11	-0.11	0.39	0.05	0.09	-0.10	0.33	0.04	0.05	-0.26	0.51	0.07	-0.08	-0.64	0.30	0.09
100	0.10	-0.23	0.59	0.07	0.06	-0.10	0.24	0.05	0.03	-0.18	0.24	0.05	-0.02	-0.37	0.52	0.07	-0.15	-0.56	0.23	0.08
110	0.08	-0.17	0.38	0.06	0.00	-0.17	0.20	0.04	-0.02	-0.18	0.15	0.04	-0.08	-0.42	0.30	0.06	-0.12	-0.45	0.20	0.06
120	-0.01	-0.35	0.27	0.07	-0.07	-0.26	0.07	0.04	-0.05	-0.20	0.18	0.04	-0.17	-0.79	0.15	0.07	-0.20	-0.63	0.05	0.07
130	-0.08	-0.52	0.24	0.07	-0.12	-0.28	0.10	0.04	-0.11	-0.32	0.11	0.04	-0.25	-1.02	0.16	0.09	-0.30	-0.95	0.00	0.09
140	-0.13	-0.59	0.13	0.08	-0.12	-0.32	0.02	0.04	-0.09	-0.28	0.21	0.04	-0.23	-1.12	0.19	0.09	-0.33	-1.13	-0.04	0.11
150	-0.15	-0.55	0.13	0.06	-0.13	-0.36	0.08	0.04	-0.10	-0.28	0.11	0.04	-0.25	-1.15	0.22	0.10	-0.31	-1.00	-0.03	0.10
160	-0.16	-0.69	0.12	0.06	-0.14	-0.31	0.04	0.04	-0.12	-0.28	0.08	0.04	-0.23	-0.88	0.07	0.08	-0.24	-0.87	-0.02	0.07
170	-0.16	-0.64	0.07	0.06	-0.15	-0.60	0.09	0.05	-0.12	-0.29	0.15	0.04	-0.25	-1.05	0.04	0.10	-0.25	-0.77	0.01	0.08
180	-0.18	-0.43	0.04	0.05	-0.16	-0.37	0.05	0.04	-0.13	-0.32	0.02	0.03	-0.20	-0.65	-0.05	0.06	-0.21	-0.51	-0.03	0.05
190	-0.21	-0.44	-0.03	0.05	-0.16	-0.38	0.02	0.04	-0.12	-0.25	0.08	0.03	-0.22	-0.71	0.02	0.06	-0.23	-0.64	-0.02	0.05
200	-0.23	-0.55	0.02	0.06	-0.18	-0.40	-0.02	0.04	-0.13	-0.23	0.11	0.04	-0.22	-0.69	0.07	0.07	-0.26	-0.75	-0.07	0.06
210	-0.22	-0.51	-0.06	0.05	-0.18	-0.38	-0.01	0.04	-0.14	-0.29	0.04	0.03	-0.23	-0.71	0.09	0.08	-0.30	-0.85	-0.05	0.07
220	-0.22	-0.55	-0.03	0.05	-0.18	-0.52	0.02	0.04	-0.16	-0.34	-0.02	0.03	-0.20	-0.60	0.02	0.04	-0.29	-0.69	-0.06	0.08
230	-0.17	-0.38	-0.04	0.04	-0.16	-0.30	-0.05	0.03	-0.15	-0.26	-0.01	0.03	-0.17	-0.68	0.04	0.04	-0.20	-0.71	-0.03	0.06
240	-0.13	-0.32	0.01	0.03	-0.13	-0.35	0.01	0.03	-0.13	-0.26	-0.01	0.03	-0.14	-0.38	-0.01	0.03	-0.16	-0.49	-0.01	0.05
250	-0.13	-0.31	0.00	0.03	-0.13	-0.30	0.01	0.03	-0.11	-0.22	0.02	0.03	-0.14	-0.47	-0.01	0.04	-0.14	-0.35	0.00	0.03
260	-0.11	-0.26	0.01	0.03	-0.11	-0.23	0.01	0.03	-0.10	-0.21	0.01	0.03	-0.11	-0.27	-0.01	0.03	-0.11	-0.30	0.00	0.03
270	-0.10	-0.20	0.02	0.03	-0.10	-0.21	0.03	0.03	-0.10	-0.21	0.01	0.03	-0.10	-0.23	0.03	0.03	-0.10	-0.25	0.04	0.03
280	-0.10	-0.26	0.01	0.03	-0.11	-0.36	0.01	0.01	-0.11	-0.30	0.02	0.03	-0.10	-0.25	0.13	0.03	-0.08	-0.23	0.15	0.04
290	-0.13	-0.43	0.09	0.04	-0.18	-0.59	0.06	0.06	-0.26	-0.72	-0.04	0.07	-0.14	-0.34	0.19	0.05	-0.03	-0.23	0.40	0.07
300	-0.16	-0.42	0.16	0.05	-0.27	-0.75	0.07	0.09	-0.39	-1.01	-0.05	0.09	-0.14	-0.37	0.14	0.06	0.02	-0.24	0.57	0.09
310	-0.16	-0.45	0.14	0.06	-0.29	-0.80	0.05	0.09	-0.39	-1.33	0.01	0.12	-0.11	-0.35	0.20	0.06	0.06	-0.28	0.51	0.09
320	-0.16	-0.49	0.24	0.06	-0.25	-0.85	0.14	0.08	-0.30	-0.87	0.06	0.09	-0.08	-0.34	0.29	0.06	0.09	-0.28	0.60	0.10
330	-0.16	-0.43	0.13	0.06	-0.24	-0.65	0.08	0.07	-0.21	-0.62	0.12	0.09	-0.02	-0.32	0.43	0.07	0.15	-0.16	0.71	0.10
340	-0.15	-0.38	0.16	0.05	-0.20	-0.67	0.09	0.05	-0.19	-0.61	0.22	0.07	0.04	-0.28	0.45	0.08	0.20	-0.16	0.73	0.11
350	-0.13	-0.31	0.07	0.04	-0.16	-0.41	0.06	0.04	-0.13	-0.59	0.15	0.08	0.05	-0.21	0.60	0.08	0.21	-0.11	0.91	0.11
360	-0.10	-0.32	0.10	0.04	-0.12	-0.30	0.03	0.04	-0.06	-0.42	0.31	0.07	0.05	-0.20	0.53	0.07	0.16	-0.13	0.66	0.10

NEARBY BUILDINGS - EXISTING CONDITIONS

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # L 20 MEAN	MIN	MAX	RMS	TAP # L 21 MEAN	MIN	MAX	RMS	TAP # M 1 MEAN	MIN	MAX	RMS	TAP # M 2 MEAN	MIN	MAX	RMS	TAP # M 3 MEAN	MIN	MAX	RMS
10	0.10	-0.15	0.47	0.07	0.04	-0.17	0.41	0.05	-0.20	-0.64	0.06	0.07	-0.04	-0.29	0.21	0.05	-0.15	-0.62	0.28	0.09
20	0.11	-0.11	0.60	0.07	0.07	-0.09	0.45	0.05	-0.14	-0.59	0.09	0.06	-0.02	-0.22	0.22	0.05	-0.08	-0.73	0.30	0.08
30	0.09	-0.36	0.47	0.06	0.06	-0.09	0.46	0.05	-0.07	-0.34	0.15	0.06	-0.01	-0.31	0.36	0.05	-0.04	-0.55	0.31	0.07
40	0.09	-0.20	0.54	0.06	0.05	-0.12	0.38	0.05	-0.04	-0.37	0.22	0.05	0.07	-0.12	0.66	0.07	0.05	-0.33	0.55	0.07
50	0.06	-0.35	0.53	0.08	0.05	-0.13	0.39	0.05	0.00	-0.47	0.26	0.06	0.11	-0.10	0.43	0.06	0.15	-0.17	0.70	0.09
60	0.03	-0.30	0.29	0.07	0.06	-0.17	0.25	0.04	0.05	-0.52	0.41	0.08	0.13	-0.12	0.48	0.06	0.19	-0.09	0.72	0.08
70	0.01	-0.31	0.30	0.07	0.03	-0.29	0.24	0.04	0.01	-0.62	0.40	0.08	0.06	-0.13	0.32	0.05	0.11	-0.17	0.81	0.09
80	-0.01	-0.51	0.25	0.06	0.03	-0.19	0.23	0.05	0.01	-0.34	0.33	0.06	0.04	-0.15	0.31	0.05	0.04	-0.13	0.50	0.05
90	0.02	-0.32	0.26	0.06	0.05	-0.19	0.32	0.05	-0.06	-0.48	0.31	0.08	0.05	-0.18	0.40	0.06	0.00	-0.18	0.24	0.04
100	-0.04	-0.44	0.17	0.06	-0.03	-0.32	0.21	0.05	-0.13	-0.77	0.20	0.10	0.08	-0.21	0.74	0.10	-0.03	-0.27	0.25	0.05
110	-0.06	-0.29	0.11	0.05	-0.04	-0.21	0.11	0.04	-0.15	-0.95	0.24	0.11	0.11	-0.17	0.70	0.09	-0.02	-0.22	0.24	0.05
120	-0.06	-0.25	0.09	0.04	-0.08	-0.46	0.11	0.05	-0.12	-0.63	0.22	0.08	0.08	-0.15	0.66	0.08	-0.02	-0.18	0.37	0.05
130	-0.11	-0.35	0.07	0.04	-0.14	-0.53	0.04	0.06	-0.16	-0.68	0.20	0.07	-0.05	-0.30	0.39	0.06	-0.08	-0.35	0.17	0.05
140	-0.09	-0.42	0.13	0.05	-0.15	-0.76	0.28	0.08	-0.15	-0.49	0.11	0.05	-0.07	-0.23	0.18	0.04	-0.11	-0.27	0.08	0.04
150	-0.12	-0.41	0.05	0.04	-0.18	-0.67	0.07	0.07	-0.19	-0.44	0.07	0.05	-0.11	-0.31	0.14	0.04	-0.14	-0.30	-0.01	0.03
160	-0.11	-0.29	0.08	0.04	-0.15	-0.50	0.04	0.05	-0.16	-0.40	0.12	0.05	-0.14	-0.35	0.05	0.04	-0.15	-0.30	-0.03	0.03
170	-0.13	-0.43	0.03	0.04	-0.16	-0.46	0.04	0.04	-0.14	-0.42	0.17	0.06	-0.18	-0.38	-0.01	0.04	-0.17	-0.36	-0.03	0.03
180	-0.13	-0.33	0.02	0.03	-0.16	-0.35	0.00	0.04	-0.13	-0.44	0.34	0.07	-0.19	-0.41	-0.03	0.04	-0.16	-0.35	-0.01	0.03
190	-0.14	-0.33	0.01	0.03	-0.16	-0.38	0.00	0.04	-0.14	-0.36	0.21	0.05	-0.16	-0.37	-0.03	0.04	-0.15	-0.31	0.00	0.03
200	-0.14	-0.33	0.05	0.04	-0.18	-0.44	0.01	0.05	-0.12	-0.34	0.23	0.05	-0.16	-0.36	-0.03	0.04	-0.15	-0.28	0.00	0.03
210	-0.16	-0.43	0.01	0.04	-0.20	-0.48	0.02	0.05	-0.13	-0.37	0.20	0.05	-0.16	-0.35	-0.02	0.04	-0.15	-0.28	-0.02	0.03
220	-0.18	-0.41	0.00	0.04	-0.21	-0.48	-0.05	0.05	-0.14	-0.34	0.16	0.05	-0.16	-0.35	-0.02	0.04	-0.16	-0.31	-0.02	0.03
230	-0.15	-0.33	-0.02	0.03	-0.16	-0.35	-0.03	0.04	-0.14	-0.39	0.08	0.04	-0.14	-0.32	0.00	0.04	-0.14	-0.30	0.01	0.03
240	-0.12	-0.27	0.00	0.03	-0.13	-0.28	0.00	0.03	-0.12	-0.32	0.13	0.04	-0.13	-0.37	-0.01	0.04	-0.13	-0.27	0.00	0.03
250	-0.12	-0.26	0.01	0.03	-0.12	-0.29	0.00	0.03	-0.10	-0.41	0.19	0.05	-0.11	-0.32	0.03	0.04	-0.11	-0.28	0.05	0.04
260	-0.10	-0.23	0.00	0.03	-0.10	-0.24	0.03	0.03	-0.10	-0.26	0.13	0.03	-0.09	-0.21	0.04	0.03	-0.09	-0.29	0.04	0.03
270	-0.10	-0.24	0.01	0.03	-0.09	-0.25	0.04	0.03	-0.08	-0.24	0.05	0.03	-0.09	-0.26	0.03	0.03	-0.10	-0.47	0.05	0.04
280	-0.10	-0.27	0.03	0.03	-0.10	-0.24	0.05	0.03	-0.11	-0.37	0.07	0.04	-0.11	-0.31	0.04	0.04	-0.11	-0.38	0.04	0.04
290	-0.13	-0.32	0.01	0.03	-0.12	-0.28	0.02	0.03	-0.17	-0.71	0.05	0.06	-0.16	-0.41	0.00	0.04	-0.16	-0.42	0.01	0.04
300	-0.15	-0.38	0.02	0.04	-0.12	-0.30	0.03	0.04	-0.21	-0.52	0.00	0.06	-0.19	-0.38	0.01	0.04	-0.20	-0.41	-0.04	0.04
310	-0.15	-0.47	0.06	0.05	-0.11	-0.32	0.09	0.04	-0.23	-0.62	-0.02	0.05	-0.21	-0.39	-0.06	0.04	-0.21	-0.51	-0.05	0.04
320	-0.12	-0.39	0.11	0.05	-0.10	-0.32	0.12	0.04	-0.22	-0.63	-0.03	0.06	-0.20	-0.38	-0.03	0.04	-0.19	-0.38	-0.03	0.04
330	-0.11	-0.33	0.16	0.05	-0.10	-0.34	0.06	0.04	-0.26	-0.70	-0.04	0.07	-0.20	-0.35	-0.03	0.04	-0.19	-0.38	-0.01	0.04
340	-0.10	-0.64	0.31	0.06	-0.10	-0.34	0.15	0.04	-0.23	-0.74	-0.03	0.06	-0.18	-0.42	0.04	0.04	-0.18	-0.63	0.04	0.05
350	-0.06	-0.50	0.38	0.08	-0.08	-0.45	0.18	0.05	-0.19	-0.65	0.02	0.06	-0.16	-0.46	0.07	0.05	-0.20	-0.59	0.11	0.06
360	-0.01	-0.33	0.53	0.08	-0.03	-0.31	0.28	0.06	-0.19	-0.59	0.02	0.07	-0.10	-0.33	0.18	0.05	-0.18	-0.69	0.16	0.07

NEARBY BUILDINGS - EXISTING CONDITIONS

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # M 4 MEAN	MIN	MAX	RMS	TAP # M 5 MEAN	MIN	MAX	RMS	TAP # M 6 MEAN	MIN	MAX	RMS	TAP # M 7 MEAN	MIN	MAX	RMS	TAP # M 8 MEAN	MIN	MAX	RMS
10	-0.03	-0.50	0.31	0.09	0.10	-0.17	0.61	0.09	-0.05	-0.62	0.40	0.10	-0.34	-1.22	0.06	0.14	-0.03	-0.29	0.09	0.04
20	-0.01	-0.46	0.39	0.08	0.11	-0.22	0.60	0.08	-0.02	-0.41	0.34	0.09	-0.23	-1.03	0.17	0.11	-0.05	-0.28	0.11	0.04
30	0.00	-0.32	0.41	0.07	0.06	-0.20	0.62	0.07	0.00	-0.39	0.41	0.07	-0.11	-0.73	0.26	0.11	-0.02	-0.24	0.17	0.04
40	0.00	-0.44	0.36	0.06	0.01	-0.39	0.45	0.07	0.03	-0.30	0.33	0.06	-0.02	-0.81	0.28	0.08	0.01	-0.19	0.19	0.04
50	0.05	-0.40	0.40	0.07	0.01	-0.71	0.30	0.07	0.08	-0.13	0.46	0.06	0.01	-0.57	0.33	0.07	0.04	-0.18	0.24	0.04
60	0.12	-0.30	0.41	0.07	0.04	-0.44	0.32	0.07	0.14	-0.07	0.46	0.06	0.00	-0.49	0.30	0.09	0.03	-0.22	0.22	0.04
70	0.07	-0.30	0.36	0.06	0.05	-0.40	0.43	0.06	0.10	-0.27	0.54	0.07	0.01	-0.68	0.36	0.09	0.03	-0.22	0.25	0.05
80	0.03	-0.24	0.28	0.05	0.02	-0.24	0.29	0.05	0.04	-0.17	0.43	0.05	0.03	-0.35	0.27	0.05	0.03	-0.19	0.22	0.04
90	-0.03	-0.61	0.25	0.06	-0.01	-0.39	0.20	0.04	0.00	-0.28	0.28	0.05	0.00	-0.27	0.25	0.05	-0.01	-0.31	0.18	0.05
100	-0.08	-0.74	0.16	0.07	-0.05	-0.30	0.15	0.04	-0.05	-0.40	0.24	0.06	-0.02	-0.40	0.19	0.05	-0.05	-0.35	0.16	0.05
110	-0.09	-0.55	0.21	0.07	-0.05	-0.34	0.12	0.04	-0.06	-0.40	0.27	0.06	-0.03	-0.40	0.16	0.05	-0.04	-0.25	0.22	0.05
120	-0.09	-0.45	0.10	0.05	-0.07	-0.24	0.08	0.03	-0.06	-0.31	0.14	0.04	-0.05	-0.30	0.13	0.04	-0.04	-0.23	0.19	0.04
130	-0.14	-0.44	0.00	0.05	-0.12	-0.27	0.02	0.04	-0.09	-0.32	0.28	0.05	-0.08	-0.29	0.11	0.04	-0.08	-0.28	0.19	0.04
140	-0.17	-0.45	0.05	0.05	-0.14	-0.30	0.00	0.03	-0.11	-0.33	0.18	0.05	-0.10	-0.30	0.07	0.04	-0.10	-0.28	0.06	0.04
150	-0.18	-0.45	-0.01	0.05	-0.16	-0.32	-0.01	0.03	-0.14	-0.33	0.08	0.04	-0.12	-0.33	0.03	0.04	-0.13	-0.32	0.05	0.04
160	-0.17	-0.39	-0.03	0.04	-0.17	-0.37	-0.03	0.03	-0.16	-0.37	0.04	0.04	-0.14	-0.34	0.03	0.03	-0.14	-0.36	0.05	0.04
170	-0.17	-0.35	-0.04	0.04	-0.20	-0.60	-0.05	0.05	-0.16	-0.43	0.09	0.05	-0.15	-0.32	0.00	0.03	-0.14	-0.34	-0.01	0.04
180	-0.17	-0.46	-0.01	0.04	-0.21	-0.53	-0.05	0.05	-0.16	-0.39	0.20	0.06	-0.15	-0.33	-0.02	0.03	-0.14	-0.37	0.02	0.04
190	-0.15	-0.39	-0.01	0.04	-0.16	-0.34	-0.03	0.03	-0.15	-0.34	0.06	0.04	-0.14	-0.34	-0.03	0.03	-0.15	-0.32	0.00	0.03
200	-0.15	-0.34	0.02	0.04	-0.20	-0.43	-0.02	0.04	-0.18	-0.36	0.01	0.04	-0.17	-0.32	-0.03	0.03	-0.19	-0.36	-0.04	0.03
210	-0.17	-0.40	-0.02	0.04	-0.22	-0.45	-0.07	0.04	-0.19	-0.43	-0.01	0.04	-0.18	-0.35	-0.03	0.03	-0.19	-0.35	-0.03	0.03
220	-0.17	-0.40	-0.02	0.04	-0.21	-0.46	-0.02	0.05	-0.18	-0.54	0.03	0.04	-0.18	-0.38	-0.02	0.04	-0.19	-0.36	-0.04	0.04
230	-0.14	-0.36	0.01	0.04	-0.16	-0.44	0.00	0.05	-0.15	-0.38	0.01	0.04	-0.15	-0.39	0.03	0.04	-0.16	-0.34	0.03	0.04
240	-0.12	-0.35	0.02	0.04	-0.13	-0.41	0.01	0.04	-0.13	-0.40	0.01	0.04	-0.13	-0.34	0.04	0.04	-0.14	-0.43	0.06	0.04
250	-0.12	-0.34	0.02	0.04	-0.12	-0.29	0.03	0.04	-0.12	-0.41	0.07	0.04	-0.11	-0.40	0.07	0.04	-0.12	-0.38	0.09	0.05
260	-0.10	-0.25	0.04	0.03	-0.09	-0.25	0.04	0.03	-0.09	-0.27	0.05	0.03	-0.10	-0.30	0.03	0.03	-0.10	-0.26	0.07	0.03
270	-0.10	-0.37	0.06	0.04	-0.07	-0.25	0.18	0.04	-0.09	-0.31	0.05	0.03	-0.09	-0.55	0.04	0.04	-0.09	-0.24	0.02	0.03
280	-0.11	-0.62	0.15	0.06	-0.04	-0.28	0.26	0.05	-0.13	-0.64	0.04	0.06	-0.14	-0.88	0.13	0.07	-0.10	-0.44	0.08	0.04
290	-0.16	-0.66	0.11	0.07	-0.04	-0.29	0.24	0.05	-0.22	-0.75	0.05	0.08	-0.27	-0.81	0.06	0.11	-0.17	-0.48	0.09	0.06
300	-0.19	-0.64	0.05	0.07	-0.06	-0.28	0.27	0.06	-0.27	-0.79	0.02	0.07	-0.34	-1.03	0.04	0.11	-0.21	-0.49	0.05	0.05
310	-0.20	-0.72	0.08	0.07	-0.06	-0.31	0.34	0.06	-0.28	-0.81	0.03	0.07	-0.37	-1.11	-0.01	0.11	-0.22	-0.44	0.01	0.04
320	-0.18	-0.57	0.07	0.07	-0.04	-0.30	0.43	0.07	-0.27	-0.74	0.05	0.08	-0.40	-1.15	-0.02	0.11	-0.21	-0.48	-0.01	0.04
330	-0.17	-0.77	0.17	0.07	-0.03	-0.29	0.38	0.07	-0.26	-0.80	0.12	0.09	-0.40	-1.24	-0.01	0.11	-0.19	-0.44	0.00	0.04
340	-0.16	-0.56	0.16	0.07	-0.03	-0.29	0.42	0.07	-0.24	-0.73	0.22	0.09	-0.37	-1.18	-0.01	0.11	-0.17	-0.38	0.00	0.04
350	-0.17	-0.61	0.17	0.08	-0.02	-0.25	0.46	0.07	-0.21	-0.68	0.25	0.09	-0.33	-1.24	0.02	0.11	-0.16	-0.45	0.09	0.05
360	-0.13	-0.53	0.27	0.09	0.02	-0.24	0.60	0.08	-0.15	-0.62	0.41	0.09	-0.28	-1.15	0.11	0.12	-0.13	-0.53	0.08	0.04

NEARBY BUILDINGS - EXISTING CONDITIONS

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # M 9 MEAN	MIN	MAX	RMS	TAP # M 10 MEAN	MIN	MAX	RMS	TAP # M 11 MEAN	MIN	MAX	RMS	TAP # M 12 MEAN	MIN	MAX	RMS	TAP # M 13 MEAN	MIN	MAX	RMS
10	0.12	-0.14	0.73	0.09	0.10	-0.11	0.55	0.07	-0.26	-1.10	0.00	0.10	0.04	-0.25	0.54	0.08	0.03	-0.22	0.39	0.07
20	0.14	-0.08	0.69	0.07	0.10	-0.09	0.66	0.06	-0.18	-1.05	0.05	0.08	0.05	-0.17	0.47	0.07	0.05	-0.17	0.40	0.05
30	0.09	-0.14	0.56	0.07	0.07	-0.10	0.56	0.06	-0.12	-0.63	0.15	0.08	0.04	-0.17	0.36	0.05	0.03	-0.15	0.32	0.05
40	0.06	-0.15	0.62	0.06	0.05	-0.13	0.42	0.05	-0.03	-0.46	0.18	0.07	0.04	-0.22	0.35	0.05	0.04	-0.17	0.35	0.04
50	0.05	-0.12	0.27	0.04	0.05	-0.12	0.22	0.04	0.01	-0.30	0.20	0.05	0.04	-0.13	0.33	0.04	0.04	-0.09	0.25	0.04
60	0.06	-0.10	0.29	0.04	0.08	-0.06	0.22	0.03	0.07	-0.15	0.27	0.04	0.07	-0.11	0.26	0.04	0.07	-0.06	0.22	0.04
70	0.06	-0.17	0.27	0.04	0.07	-0.10	0.28	0.04	0.07	-0.53	0.28	0.05	0.06	-0.11	0.21	0.04	0.06	-0.10	0.24	0.04
80	0.02	-0.20	0.22	0.04	0.03	-0.31	0.23	0.04	0.05	-0.18	0.24	0.04	0.04	-0.14	0.24	0.04	0.04	-0.34	0.22	0.05
90	-0.01	-0.20	0.18	0.04	-0.01	-0.17	0.19	0.04	0.04	-0.12	0.20	0.04	0.01	-0.30	0.19	0.05	0.00	-0.37	0.20	0.06
100	-0.06	-0.26	0.10	0.04	-0.05	-0.22	0.12	0.04	-0.01	-0.22	0.16	0.04	-0.04	-0.30	0.14	0.05	-0.04	-0.38	0.17	0.05
110	-0.07	-0.31	0.08	0.04	-0.07	-0.22	0.11	0.04	-0.04	-0.24	0.15	0.04	-0.07	-0.37	0.13	0.05	-0.06	-0.32	0.12	0.05
120	-0.09	-0.25	0.06	0.03	-0.08	-0.24	0.04	0.03	-0.07	-0.28	0.09	0.04	-0.08	-0.24	0.06	0.04	-0.08	-0.25	0.06	0.04
130	-0.12	-0.27	0.02	0.03	-0.13	-0.29	-0.01	0.03	-0.11	-0.29	0.05	0.04	-0.10	-0.24	0.02	0.03	-0.11	-0.27	0.04	0.04
140	-0.13	-0.27	-0.01	0.03	-0.12	-0.28	0.00	0.03	-0.11	-0.34	0.02	0.04	-0.11	-0.26	0.01	0.03	-0.12	-0.25	0.03	0.03
150	-0.15	-0.29	-0.02	0.03	-0.15	-0.33	0.00	0.03	-0.13	-0.37	0.01	0.04	-0.13	-0.29	0.01	0.03	-0.14	-0.31	0.00	0.03
160	-0.15	-0.30	-0.03	0.03	-0.15	-0.29	-0.03	0.03	-0.14	-0.31	-0.01	0.03	-0.14	-0.32	-0.02	0.03	-0.14	-0.30	-0.01	0.03
170	-0.17	-0.35	-0.05	0.03	-0.17	-0.31	-0.04	0.03	-0.15	-0.38	-0.01	0.04	-0.15	-0.39	-0.01	0.03	-0.15	-0.33	0.02	0.03
180	-0.16	-0.31	-0.06	0.03	-0.17	-0.32	-0.02	0.03	-0.15	-0.43	0.00	0.04	-0.14	-0.30	-0.02	0.03	-0.15	-0.30	-0.02	0.03
190	-0.15	-0.30	-0.02	0.03	-0.15	-0.28	-0.03	0.03	-0.16	-0.32	0.09	0.03	-0.14	-0.28	-0.02	0.03	-0.14	-0.29	-0.01	0.03
200	-0.17	-0.34	-0.05	0.03	-0.18	-0.31	-0.04	0.03	-0.17	-0.38	0.12	0.04	-0.15	-0.33	-0.02	0.03	-0.15	-0.29	-0.02	0.03
210	-0.19	-0.32	-0.05	0.03	-0.20	-0.33	-0.07	0.03	-0.19	-0.58	0.07	0.04	-0.16	-0.32	-0.04	0.03	-0.16	-0.32	-0.03	0.03
220	-0.19	-0.43	-0.05	0.04	-0.19	-0.42	-0.04	0.04	-0.18	-0.49	0.00	0.04	-0.17	-0.35	-0.04	0.04	-0.17	-0.39	-0.03	0.04
230	-0.16	-0.45	-0.03	0.04	-0.16	-0.32	-0.03	0.04	-0.16	-0.41	-0.01	0.04	-0.16	-0.46	-0.04	0.04	-0.15	-0.29	-0.01	0.02
240	-0.13	-0.27	-0.01	0.03	-0.13	-0.24	0.00	0.03	-0.14	-0.46	0.02	0.04	-0.13	-0.40	0.03	0.04	-0.13	-0.35	0.01	0.03
250	-0.13	-0.37	0.03	0.04	-0.12	-0.27	0.03	0.03	-0.13	-0.52	0.01	0.04	-0.11	-0.27	0.05	0.03	-0.11	-0.27	0.04	0.03
260	-0.10	-0.23	0.03	0.03	-0.09	-0.21	0.02	0.03	-0.11	-0.25	0.02	0.03	-0.10	-0.21	0.02	0.03	-0.10	-0.23	0.03	0.03
270	-0.08	-0.22	0.05	0.03	-0.08	-0.35	0.09	0.04	-0.09	-0.26	0.02	0.03	-0.08	-0.20	0.13	0.03	-0.08	-0.23	0.07	0.03
280	-0.01	-0.22	0.63	0.07	0.00	-0.21	0.39	0.05	-0.12	-1.02	0.29	0.10	-0.06	-0.42	0.31	0.05	-0.04	-0.25	0.33	0.05
290	0.04	-0.24	0.50	0.09	0.06	-0.18	0.43	0.06	-0.20	-1.03	0.39	0.17	-0.04	-0.32	0.48	0.08	-0.03	-0.31	0.48	0.06
300	0.07	-0.26	0.54	0.09	0.05	-0.16	0.49	0.07	-0.26	-1.42	0.42	0.18	0.01	-0.36	0.66	0.10	-0.01	-0.22	0.50	0.07
310	0.06	-0.28	0.51	0.09	0.03	-0.18	0.37	0.06	-0.34	-1.45	0.20	0.20	0.04	-0.27	0.51	0.11	0.01	-0.47	0.56	0.08
320	0.09	-0.20	0.62	0.09	0.05	-0.17	0.43	0.07	-0.43	-1.54	0.21	0.21	0.09	-0.37	0.77	0.13	0.03	-0.35	0.57	0.10
330	0.13	-0.16	0.69	0.11	0.09	-0.19	0.48	0.08	-0.56	-1.57	0.16	0.19	0.13	-0.26	0.73	0.12	0.05	-0.36	0.57	0.09
340	0.09	-0.18	0.68	0.09	0.08	-0.18	0.53	0.07	-0.54	-1.41	0.01	0.15	0.14	-0.23	0.91	0.13	0.08	-0.35	0.60	0.10
350	0.06	-0.21	0.84	0.09	0.06	-0.16	0.55	0.07	-0.45	-1.37	-0.04	0.14	0.07	-0.32	0.74	0.11	0.05	-0.26	0.64	0.08
360	0.06	-0.27	0.68	0.09	0.07	-0.14	0.67	0.07	-0.31	-1.00	0.00	0.11	0.03	-0.29	0.57	0.09	0.03	-0.22	0.55	0.08

M H T E

NEARBY BUILDINGS - EXISTING CONDITIONS

EXTERIOR WIND LOAD COEFFICIENTS

Wind ANGLE	TAP # M 14 MEAN	MIN	MAX	RMS	TAP # M 15 MEAN	MIN	MAX	RMS	TAP # M 16 MEAN	MIN	MAX	RMS	TAP # M 17 MEAN	MIN	MAX	RMS	TAP # 0 MEAN	MIN	MAX	RMS
10	-0.22	-0.67	0.05	0.07	-0.21	-0.93	0.16	0.08	-0.10	-0.33	0.01	0.04	-0.11	-0.45	0.13	0.06	0.00	0.00	0.00	0.00
20	-0.16	-0.92	0.05	0.07	-0.15	-0.73	0.09	0.07	-0.08	-0.30	0.07	0.03	-0.06	-0.37	0.15	0.05	0.00	0.00	0.00	0.00
30	-0.09	-0.48	0.09	0.05	-0.08	-0.85	0.12	0.06	-0.06	-0.23	0.04	0.03	-0.03	-0.35	0.17	0.05	0.00	0.00	0.00	0.00
40	-0.02	-0.22	0.14	0.05	-0.02	-0.40	0.13	0.05	-0.02	-0.19	0.03	0.02	0.02	-0.26	0.33	0.04	0.00	0.00	0.00	0.00
50	0.01	-0.36	0.19	0.04	0.01	-0.21	0.22	0.04	-0.01	-0.11	0.11	0.02	0.04	-0.18	0.21	0.04	0.00	0.00	0.00	0.00
60	0.04	-0.18	0.26	0.05	0.02	-0.25	0.19	0.05	0.01	-0.13	0.10	0.03	0.05	-0.22	0.29	0.05	0.00	0.00	0.00	0.00
70	0.04	-0.26	0.23	0.05	0.01	-0.22	0.20	0.05	0.02	-0.07	0.13	0.02	0.02	-0.24	0.30	0.05	0.00	0.00	0.00	0.00
80	0.04	-0.18	0.24	0.04	0.03	-0.18	0.23	0.04	0.03	-0.07	0.14	0.02	0.03	-0.18	0.22	0.04	0.00	0.00	0.00	0.00
90	0.03	-0.17	0.21	0.04	0.00	-0.23	0.21	0.04	0.03	-0.07	0.12	0.02	0.02	-0.23	0.28	0.05	0.00	0.00	0.00	0.00
100	-0.02	-0.22	0.14	0.04	-0.04	-0.23	0.13	0.04	0.01	-0.10	0.10	0.03	-0.03	-0.33	0.21	0.05	0.00	0.00	0.00	0.00
110	-0.05	-0.28	0.10	0.04	-0.05	-0.23	0.11	0.04	-0.01	-0.13	0.09	0.02	-0.04	-0.21	0.11	0.05	0.00	0.00	0.00	0.00
120	-0.08	-0.28	0.06	0.04	-0.07	-0.29	0.09	0.04	-0.01	-0.15	0.09	0.02	-0.05	-0.24	0.14	0.04	0.00	0.00	0.00	0.00
130	-0.11	-0.34	0.06	0.04	-0.09	-0.26	0.06	0.04	-0.03	-0.14	0.07	0.02	-0.08	-0.28	0.10	0.04	0.00	0.00	0.00	0.00
140	-0.12	-0.30	0.05	0.04	-0.11	-0.30	0.05	0.04	-0.05	-0.17	0.04	0.02	-0.09	-0.26	0.10	0.04	0.00	0.00	0.00	0.00
150	-0.13	-0.28	0.05	0.04	-0.13	-0.29	0.02	0.04	-0.06	-0.16	0.04	0.02	-0.11	-0.33	0.08	0.04	0.00	0.00	0.00	0.00
160	-0.13	-0.34	0.02	0.03	-0.13	-0.28	0.01	0.03	-0.07	-0.17	0.01	0.02	-0.11	-0.31	0.04	0.04	0.00	0.00	0.00	0.00
170	-0.15	-0.38	0.05	0.04	-0.15	-0.28	-0.01	0.03	-0.07	-0.18	0.03	0.02	-0.12	-0.34	0.06	0.04	0.00	0.00	0.00	0.00
180	-0.15	-0.39	0.01	0.04	-0.14	-0.30	0.00	0.03	-0.08	-0.25	0.02	0.03	-0.13	-0.38	0.05	0.04	0.00	0.00	0.00	0.00
190	-0.15	-0.33	0.01	0.03	-0.14	-0.30	-0.02	0.03	-0.08	-0.17	0.03	0.02	-0.13	-0.28	0.04	0.03	0.00	0.00	0.00	0.00
200	-0.15	-0.36	0.07	0.04	-0.15	-0.30	-0.02	0.03	-0.07	-0.17	0.12	0.02	-0.13	-0.32	0.10	0.04	0.00	0.00	0.00	0.00
210	-0.17	-0.39	0.04	0.04	-0.16	-0.32	-0.01	0.03	-0.08	-0.17	0.08	0.03	-0.15	-0.36	0.02	0.04	0.00	0.00	0.00	0.00
220	-0.17	-0.36	0.04	0.04	-0.16	-0.36	0.01	0.04	-0.09	-0.24	0.08	0.03	-0.16	-0.38	-0.01	0.04	0.00	0.00	0.00	0.00
230	-0.15	-0.33	0.03	0.04	-0.15	-0.31	-0.02	0.03	-0.08	-0.20	0.09	0.02	-0.15	-0.33	0.00	0.04	0.00	0.00	0.00	0.00
240	-0.12	-0.32	0.07	0.04	-0.12	-0.33	0.02	0.03	-0.06	-0.23	0.07	0.03	-0.11	-0.32	0.14	0.04	0.00	0.00	0.00	0.00
250	-0.13	-0.34	0.00	0.03	-0.12	-0.27	0.02	0.03	-0.06	-0.17	0.06	0.03	-0.11	-0.34	0.03	0.04	0.00	0.00	0.00	0.00
260	-0.11	-0.25	0.00	0.03	-0.11	-0.25	0.01	0.03	-0.06	-0.16	0.02	0.02	-0.10	-0.23	0.02	0.03	0.00	0.00	0.00	0.00
270	-0.09	-0.28	0.05	0.03	-0.09	-0.19	0.04	0.03	-0.05	-0.15	0.01	0.02	-0.08	-0.25	0.03	0.03	0.00	0.00	0.00	0.00
280	-0.11	-0.61	0.51	0.08	-0.12	-0.65	0.30	0.07	-0.06	-0.19	0.04	0.02	-0.10	-0.27	0.05	0.03	0.00	0.00	0.00	0.00
290	-0.17	-1.00	0.52	0.14	-0.20	-0.89	0.35	0.11	-0.10	-0.29	0.03	0.03	-0.14	-0.48	0.11	0.05	0.00	0.00	0.00	0.00
300	-0.24	-0.93	0.40	0.16	-0.23	-1.06	0.36	0.12	-0.12	-0.28	0.04	0.04	-0.17	-0.46	0.07	0.05	0.00	0.00	0.00	0.00
310	-0.28	-1.28	0.36	0.16	-0.28	-0.98	0.35	0.13	-0.15	-0.27	0.03	0.03	-0.20	-0.44	0.09	0.05	0.00	0.00	0.00	0.00
320	-0.37	-1.25	0.28	0.16	-0.33	-1.22	0.11	0.12	-0.15	-0.28	0.00	0.03	-0.18	-0.50	0.06	0.05	0.00	0.00	0.00	0.00
330	-0.42	-1.43	0.12	0.17	-0.35	-1.16	0.08	0.13	-0.15	-0.27	-0.02	0.02	-0.18	-0.62	0.08	0.05	0.00	0.00	0.00	0.00
340	-0.40	-1.23	0.18	0.15	-0.32	-1.24	0.11	0.13	-0.13	-0.23	-0.02	0.02	-0.16	-0.55	0.13	0.04	0.00	0.00	0.00	0.00
350	-0.32	-1.24	0.15	0.12	-0.28	-0.96	0.20	0.13	-0.12	-0.40	-0.03	0.03	-0.13	-0.46	0.04	0.05	0.00	0.00	0.00	0.00
360	-0.26	-0.93	0.11	0.10	-0.24	-0.81	0.23	0.10	-0.11	-0.36	-0.01	0.03	-0.11	-0.53	0.16	0.06	0.00	0.00	0.00	0.00

APPENDIX G

MARKETPLACE CENTER - BOSTON (LB, LB-FT)
STRUCTURAL LOADS

MP	FL	Z	Fx	Fy	Fz	Mz	FTx	FTy	FTz	MTx	MTy	MTz
10	21	250.	-0.3738E+05	0.8223E+04	0.3827E+05	-0.2869E+06	-0.3738E+05	0.8223E+04	0.3827E+05	-0.2868E+06	-0.1090E+06	-0.4953E+06
10	20	237.	-0.3574E+05	0.8558E+04	0.3675E+05	-0.2758E+06	-0.7310E+05	0.1679E+05	0.7501E+05	-0.5136E+06	-0.2627E+06	-0.1172E+07
10	19	225.	-0.3378E+05	0.8552E+04	0.3475E+05	-0.2568E+06	-0.1088E+06	0.2535E+05	0.1118E+06	-0.7403E+06	-0.5205E+06	-0.2287E+07
10	18	213.	-0.3226E+05	0.1690E+05	0.3675E+05	-0.2397E+06	-0.1415E+06	0.4225E+05	0.1485E+06	-0.9791E+06	-0.9342E+06	-0.3820E+07
10	17	201.	-0.3189E+05	0.1841E+05	0.3539E+05	-0.2559E+06	-0.1734E+06	0.5871E+05	0.1844E+06	-0.1235E+07	-0.1553E+07	-0.5747E+07
10	16	188.	-0.3115E+05	0.1605E+05	0.3504E+05	-0.2730E+06	-0.2045E+06	0.7475E+05	0.2194E+06	-0.1509E+07	-0.2370E+07	-0.8063E+07
10	15	176.	-0.3043E+05	0.1562E+05	0.3419E+05	-0.2903E+06	-0.2349E+06	0.9029E+05	0.2537E+06	-0.1798E+07	-0.3382E+07	-0.1076E+08
10	14	164.	-0.2975E+05	0.1522E+05	0.3341E+05	-0.3076E+06	-0.2647E+06	0.1056E+06	0.2871E+06	-0.2104E+07	-0.4583E+07	-0.1381E+08
10	13	152.	-0.2895E+05	0.1477E+05	0.3250E+05	-0.3245E+06	-0.2936E+06	0.1204E+06	0.3196E+06	-0.2429E+07	-0.5969E+07	-0.1724E+08
10	12	139.	-0.2808E+05	0.1397E+05	0.3148E+05	-0.3415E+06	-0.3218E+06	0.1343E+06	0.3510E+06	-0.2740E+07	-0.7526E+07	-0.2101E+08
10	11	127.	-0.2753E+05	0.1336E+05	0.3045E+05	-0.2948E+06	-0.3494E+06	0.1473E+06	0.3815E+06	-0.3035E+07	-0.9255E+07	-0.2512E+08
10	10	115.	-0.2582E+05	0.1217E+05	0.2944E+05	-0.2783E+06	-0.3762E+06	0.1595E+06	0.4109E+06	-0.3313E+07	-0.1113E+08	-0.2956E+08
10	9	102.	-0.2612E+05	0.1120E+05	0.3642E+05	-0.2615E+06	-0.4023E+06	0.1706E+06	0.4394E+06	-0.3575E+07	-0.1315E+08	-0.3433E+08
10	8	90.	-0.2585E+05	0.9853E+04	0.2739E+05	-0.2427E+06	-0.4278E+06	0.1805E+06	0.4667E+06	-0.3817E+07	-0.1531E+08	-0.3941E+08
10	7	78.	-0.2477E+05	0.8501E+04	0.2619E+05	-0.2237E+06	-0.4526E+06	0.1890E+06	0.4929E+06	-0.4041E+07	-0.1757E+08	-0.4481E+08
10	6	66.	-0.2410E+05	0.7156E+04	0.2511E+05	-0.2049E+06	-0.4767E+06	0.1962E+06	0.5179E+06	-0.4244E+07	-0.1993E+08	-0.5050E+08
10	5	54.	-0.2332E+05	0.5803E+04	0.2413E+05	-0.1860E+06	-0.5001E+06	0.2020E+06	0.5422E+06	-0.4432E+07	-0.2237E+08	-0.5649E+08
10	4	41.	-0.2191E+05	0.3256E+04	0.2314E+05	-0.1544E+06	-0.5221E+06	0.2065E+06	0.5644E+06	-0.4587E+07	-0.2486E+08	-0.6273E+08
10	3	29.	-0.1798E+05	-0.2813E+01	0.1920E+05	-0.1253E+06	-0.5401E+06	0.2024E+06	0.5824E+06	-0.4672E+07	-0.2736E+08	-0.6923E+08
10	2	15.	-0.1411E+05	-0.1000E+05	0.1769E+05	-0.1515E+06	-0.5571E+06	0.1924E+06	0.6020E+06	-0.4697E+07	-0.3022E+08	-0.7717E+08
10	1	0.	-0.1595E+05	-0.1000E+05	0.1969E+05	-0.2515E+06	-0.5736E+06	0.1824E+06	0.6216E+06	-0.4722E+07	-0.3294E+08	-0.8538E+08

MP	FL	Z	Fx	Fy	Fz	Mz	FTx	FTy	FTz	MTx	MTy	MTz
30	21	250.	-0.3977E+05	0.1296E+05	0.4183E+05	-0.4436E+06	-0.3977E+05	0.1296E+05	0.4183E+05	-0.4436E+06	-0.1717E+06	-0.5269E+06
30	20	237.	-0.3972E+05	0.1335E+05	0.4170E+05	-0.4341E+06	-0.7947E+05	0.2631E+05	0.8375E+05	-0.8829E+06	-0.4123E+06	-0.1257E+07
30	19	225.	-0.3972E+05	0.1335E+05	0.4190E+05	-0.4271E+06	-0.1192E+06	0.3966E+05	0.1257E+06	-0.1332E+07	-0.8161E+06	-0.2475E+07
30	18	213.	-0.3736E+05	0.2514E+05	0.4174E+05	-0.4438E+06	-0.1525E+06	0.5400E+05	0.1674E+06	-0.1821E+07	-0.1156E+07	-0.4138E+07
30	17	201.	-0.3373E+05	0.2464E+05	0.4177E+05	-0.3781E+06	-0.1862E+06	0.8946E+05	0.2091E+06	-0.2048E+07	-0.2400E+07	-0.6213E+07
30	16	188.	-0.3415E+05	0.2414E+05	0.4183E+05	-0.4077E+06	-0.2204E+06	0.1136E+06	0.2510E+06	-0.2456E+07	-0.3644E+07	-0.8704E+07
30	15	176.	-0.3157E+05	0.2364E+05	0.4183E+05	-0.4366E+06	-0.2550E+06	0.1372E+06	0.2928E+06	-0.2892E+07	-0.5181E+07	-0.1162E+08
30	14	164.	-0.3895E+05	0.2319E+05	0.4198E+05	-0.4637E+06	-0.2900E+06	0.1604E+06	0.3348E+06	-0.3284E+07	-0.7004E+07	-0.1495E+08
30	13	152.	-0.3531E+05	0.2266E+05	0.4204E+05	-0.4948E+06	-0.3254E+06	0.1831E+06	0.3768E+06	-0.3851E+07	-0.9111E+07	-0.1872E+08
30	12	139.	-0.2463E+05	0.2156E+05	0.4071E+05	-0.4764E+06	-0.3599E+06	0.2044E+06	0.4175E+06	-0.4328E+07	-0.1148E+08	-0.2292E+08
30	11	127.	-0.3348E+05	0.2039E+05	0.3920E+05	-0.4534E+06	-0.3933E+06	0.2250E+06	0.4567E+06	-0.4781E+07	-0.1412E+08	-0.2753E+08
30	10	115.	-0.3244E+05	0.1924E+05	0.3771E+05	-0.4300E+06	-0.4258E+06	0.2443E+06	0.4944E+06	-0.5211E+07	-0.1699E+08	-0.3255E+08
30	9	103.	-0.3143E+05	0.1808E+05	0.3624E+05	-0.4058E+06	-0.4572E+06	0.2623E+06	0.5307E+06	-0.5617E+07	-0.2009E+08	-0.3796E+08
30	8	90.	-0.3146E+05	0.1654E+05	0.3545E+05	-0.3804E+06	-0.4886E+06	0.2789E+06	0.5661E+06	-0.5978E+07	-0.2340E+08	-0.4375E+08
30	7	78.	-0.3134E+05	0.1502E+05	0.3470E+05	-0.3151E+06	-0.5198E+06	0.2940E+06	0.6008E+06	-0.6292E+07	-0.2691E+08	-0.4993E+08
30	6	66.	-0.3117E+05	0.1357E+05	0.3400E+05	-0.2699E+06	-0.5510E+06	0.3075E+06	0.6348E+06	-0.6552E+07	-0.3059E+08	-0.5648E+08
30	5	54.	-0.3107E+05	0.1207E+05	0.3335E+05	-0.2244E+06	-0.5821E+06	0.3196E+06	0.6682E+06	-0.6787E+07	-0.3444E+08	-0.6342E+08
30	4	41.	-0.2947E+05	0.8804E+04	0.3067E+05	-0.1671E+06	-0.6115E+06	0.3284E+06	0.6989E+06	-0.6954E+07	-0.3841E+08	-0.7074E+08
30	3	29.	-0.2209E+05	0.3319E+03	0.2289E+05	-0.7376E+05	-0.6343E+06	0.3287E+06	0.7219E+06	-0.7023E+07	-0.4243E+08	-0.7840E+08
30	2	15.	-0.1997E+05	-0.8854E+04	0.2184E+05	0.1534E+05	-0.6543E+06	0.3119E+06	0.7433E+06	-0.7012E+07	-0.4713E+08	-0.8768E+08
30	1	0.	-0.1997E+05	-0.8854E+04	0.2184E+05	0.1534E+05	-0.6743E+06	0.3110E+06	0.7654E+06	-0.6997E+07	-0.5171E+08	-0.9732E+08

MARKETPLACE CENTER - BOSTON (LB, LB-FT)
STRUCTURAL LOADS

MD	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
30	21	250.	-0.2563E+05	0.9646E+04	0.2738E+05	-0.8539E+05	-0.2563E+05	0.9646E+04	0.2738E+05	-0.8539E+05	-0.1278E+06	-0.3396E+06
30	20	237.	-0.2498E+05	0.1042E+05	0.2706E+05	-0.1899E+06	-0.5061E+05	0.2006E+05	0.5445E+05	-0.2757E+06	-0.3097E+06	-0.8068E+06
30	19	225.	-0.2493E+05	0.1042E+05	0.2706E+05	-0.1899E+06	-0.7561E+05	0.3049E+05	0.8154E+05	-0.4657E+06	-0.6173E+06	-0.1579E+07
30	18	213.	-0.2488E+05	0.1874E+05	0.2997E+05	-0.1236E+06	-0.9896E+05	0.4922E+05	0.1115E+06	-0.5893E+06	-0.1107E+07	-0.2649E+07
30	17	201.	-0.2348E+05	0.1846E+05	0.2987E+05	-0.1223E+06	-0.1225E+06	0.6768E+05	0.1414E+06	-0.7115E+06	-0.1824E+07	-0.4005E+07
30	16	188.	-0.2357E+05	0.1819E+05	0.2977E+05	-0.1210E+06	-0.1460E+06	0.8589E+05	0.1711E+06	-0.8325E+06	-0.2764E+07	-0.5649E+07
30	15	176.	-0.2365E+05	0.1791E+05	0.2967E+05	-0.1197E+06	-0.1696E+06	0.1037E+06	0.2008E+06	-0.9525E+06	-0.3926E+07	-0.7583E+07
30	14	165.	-0.2373E+05	0.1764E+05	0.2958E+05	-0.1184E+06	-0.1934E+06	0.1215E+06	0.2303E+06	-0.1071E+07	-0.5305E+07	-0.9803E+07
30	13	152.	-0.2383E+05	0.1736E+05	0.2948E+05	-0.1172E+06	-0.2173E+06	0.1388E+06	0.2598E+06	-0.1188E+07	-0.6899E+07	-0.1232E+08
30	12	139.	-0.2459E+05	0.1697E+05	0.2993E+05	-0.1242E+06	-0.2408E+06	0.1557E+06	0.2889E+06	-0.1312E+07	-0.8704E+07	-0.1513E+08
30	11	127.	-0.2324E+05	0.1657E+05	0.2855E+05	-0.1322E+06	-0.2640E+06	0.1723E+06	0.3174E+06	-0.1444E+07	-0.1071E+08	-0.1822E+08
30	10	115.	-0.2293E+05	0.1617E+05	0.2806E+05	-0.1401E+06	-0.2870E+06	0.1885E+06	0.3454E+06	-0.1584E+07	-0.1292E+08	-0.2159E+08
30	9	103.	-0.2243E+05	0.1576E+05	0.2752E+05	-0.1478E+06	-0.3076E+06	0.2043E+06	0.3731E+06	-0.1732E+07	-0.1533E+08	-0.2525E+08
30	8	90.	-0.2274E+05	0.1483E+05	0.2717E+05	-0.1464E+06	-0.3323E+06	0.2191E+06	0.4002E+06	-0.1879E+07	-0.1792E+08	-0.2919E+08
30	7	78.	-0.2280E+05	0.1395E+05	0.2680E+05	-0.1451E+06	-0.3552E+06	0.2330E+06	0.4270E+06	-0.2023E+07	-0.2069E+08	-0.3339E+08
30	6	66.	-0.2301E+05	0.1305E+05	0.2645E+05	-0.1437E+06	-0.3782E+06	0.2461E+06	0.4535E+06	-0.2168E+07	-0.2363E+08	-0.3788E+08
30	5	54.	-0.2313E+05	0.1215E+05	0.2613E+05	-0.1423E+06	-0.4013E+06	0.2583E+06	0.4796E+06	-0.2310E+07	-0.2671E+08	-0.4265E+08
30	4	41.	-0.2329E+05	0.1006E+05	0.2442E+05	-0.1365E+06	-0.4236E+06	0.2683E+06	0.5040E+06	-0.2436E+07	-0.2994E+08	-0.4771E+08
30	3	29.	-0.1844E+05	0.4570E+04	0.1899E+05	-0.8859E+05	-0.4420E+06	0.2728E+06	0.5230E+06	-0.2505E+07	-0.3325E+08	-0.5301E+08
30	2	15.	-0.1764E+05	-0.7404E+03	0.1764E+05	-0.1749E+05	-0.4597E+06	0.2731E+06	0.5406E+06	-0.2523E+07	-0.3721E+08	-0.5955E+08
30	1	0.	-0.1743E+05	-0.7404E+03	0.1764E+05	-0.1749E+05	-0.4773E+06	0.2713E+06	0.5583E+06	-0.2540E+07	-0.4114E+08	-0.6634E+08

MD	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
40	21	250.	-0.3149E+05	0.1065E+05	0.3314E+05	0.2784E+06	-0.3139E+05	0.1065E+05	0.3314E+05	0.2784E+06	-0.1411E+06	-0.4159E+06
40	20	237.	-0.3098E+05	0.1239E+05	0.3335E+05	0.4219E+05	-0.5743E+05	0.2304E+05	0.6199E+05	0.3206E+06	-0.3474E+06	-0.9596E+06
40	19	225.	-0.3095E+05	0.1239E+05	0.3335E+05	0.4219E+05	-0.8347E+05	0.3543E+05	0.9082E+05	0.3623E+06	-0.7055E+06	-0.1823E+07
40	18	213.	-0.3091E+05	0.2087E+05	0.3634E+05	0.1507E+06	-0.1082E+06	0.5632E+05	0.1232E+06	0.5134E+06	-0.1267E+07	-0.2997E+07
40	17	201.	-0.2903E+05	0.2067E+05	0.3567E+05	0.1432E+06	-0.1322E+06	0.7697E+05	0.1549E+06	0.6567E+06	-0.2083E+07	-0.4470E+07
40	16	188.	-0.2838E+05	0.2038E+05	0.3500E+05	0.1359E+06	-0.1556E+06	0.9732E+05	0.1859E+06	0.7925E+06	-0.3151E+07	-0.6232E+07
40	15	176.	-0.2272E+05	0.2010E+05	0.3033E+05	0.1284E+06	-0.1783E+06	0.1174E+06	0.2162E+06	0.9211E+06	-0.4466E+07	-0.8275E+07
40	14	165.	-0.2213E+05	0.1982E+05	0.2972E+05	0.1217E+06	-0.2004E+06	0.1372E+06	0.2459E+06	0.1045E+07	-0.6026E+07	-0.1060E+08
40	13	153.	-0.2142E+05	0.1957E+05	0.2901E+05	0.1138E+06	-0.2218E+06	0.1568E+06	0.2749E+06	0.1157E+07	-0.7825E+07	-0.1318E+08
40	12	139.	-0.2100E+05	0.1918E+05	0.2850E+05	0.1123E+06	-0.2428E+06	0.1761E+06	0.3035E+06	0.1269E+07	-0.9867E+07	-0.1603E+08
40	11	127.	-0.2041E+05	0.1893E+05	0.2802E+05	0.1116E+06	-0.2635E+06	0.1951E+06	0.3314E+06	0.1380E+07	-0.1214E+08	-0.1913E+08
40	10	115.	-0.2042E+05	0.1869E+05	0.2753E+05	0.1109E+06	-0.2837E+06	0.2138E+06	0.3590E+06	0.1492E+07	-0.1464E+08	-0.2248E+08
40	9	103.	-0.1988E+05	0.1838E+05	0.2707E+05	0.1036E+06	-0.3035E+06	0.2321E+06	0.3861E+06	0.1600E+07	-0.1738E+08	-0.2603E+08
40	8	90.	-0.2081E+05	0.1784E+05	0.2741E+05	0.5959E+05	-0.3244E+06	0.2500E+06	0.4135E+06	0.1659E+07	-0.2033E+08	-0.2992E+08
40	7	78.	-0.2176E+05	0.1730E+05	0.2780E+05	0.1017E+05	-0.3461E+06	0.2673E+06	0.4413E+06	0.1670E+07	-0.2350E+08	-0.3403E+08
40	6	66.	-0.2268E+05	0.1676E+05	0.2821E+05	-0.3866E+05	-0.3688E+06	0.2840E+06	0.4695E+06	0.1631E+07	-0.2687E+08	-0.3841E+08
40	5	54.	-0.2363E+05	0.1622E+05	0.2866E+05	-0.8825E+05	-0.3924E+06	0.3003E+06	0.4982E+06	0.1542E+07	-0.3045E+08	-0.4309E+08
40	4	41.	-0.2357E+05	0.1452E+05	0.2768E+05	-0.1082E+06	-0.4160E+06	0.3140E+06	0.5258E+06	0.1431E+07	-0.3422E+08	-0.4802E+08
40	3	29.	-0.2062E+05	0.9396E+04	0.2266E+05	-0.4329E+05	-0.4366E+06	0.3242E+06	0.5485E+06	0.1391E+07	-0.3813E+08	-0.5325E+08
40	2	15.	-0.2117E+05	0.5481E+04	0.2187E+05	0.2010E+05	-0.4578E+06	0.3297E+06	0.5703E+06	0.1412E+07	-0.4208E+08	-0.5973E+08
40	1	0.	-0.2117E+05	0.5481E+04	0.2187E+05	0.2010E+05	-0.4790E+06	0.3352E+06	0.5922E+06	0.1432E+07	-0.4770E+08	-0.6652E+08

MARKETPLACE CENTER - BOSTON (LB, LB-FT)
STRUCTURAL LOADS

UB	EL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
50	21	252.	0.2459E+05	0.1516E+05	0.2889E+05	0.8743E+06	-0.2459E+05	0.1516E+05	0.2889E+05	0.8743E+06	-0.2008E+06	-0.3258E+06
50	20	231.	-0.1384E+05	0.1813E+05	0.2505E+05	0.8[illegible]E+06	-0.4302E+05	0.3328E+05	0.5474E+05	0.1522E+07	-0.4975E+06	-0.7402E+06
50	19	210.	-0.1784E+05	0.1817E+05	0.2580E+05	0.8[illegible]E+06	-0.6145E+05	0.5140E+05	0.8059E+05	0.2169E+07	-0.1016E+07	-0.1380E+07
50	18	189.	-0.1914E+05	0.1[illegible]E+05	0.2[illegible]E+05	0.[illegible]E+06	-0.8059E+05	0.6[illegible]E+05	0.1[illegible]E+06	0.2[illegible]E+07	-0.1350E+07	-0.2250E+07
50	17	168.	-0.1884E+05	0.3294E+05	0.3794E+05	0.[illegible]E+06	-0.9923E+05	0.9[illegible]E+05	0.1[illegible]E+06	0.2[illegible]E+07	-0.1[illegible]E+07	-0.3[illegible]E+07
50	16	147.	-0.1909E+05	0.3101E+05	0.3659E+05	0.[illegible]E+06	-0.1173E+06	0.1490E+06	0.1931E+06	0.3[illegible]E+07	-0.4[illegible]E+07	-0.4[illegible]E+07
50	15	126.	-0.1758E+05	0.3104E+05	0.3567E+05	0.2[illegible]E+06	-0.1349E+06	0.1801E+06	0.2287E+06	0.3716E+07	-0.6735E+07	-0.6222E+07
50	14	105.	-0.1707E+05	0.3038E+05	0.3484E+05	0.3329E+06	-0.1519E+06	0.2105E+06	0.2636E+06	0.4042E+07	-0.9129E+07	-0.7976E+07
50	13	84.	-0.1650E+05	0.2957E+05	0.3386E+05	0.3076E+06	-0.1685E+06	0.2401E+06	0.2975E+06	0.4350E+07	-0.1189E+08	-0.9940E+07
50	12	63.	-0.1707E+05	0.2851E+05	0.3323E+05	0.2994E+06	-0.1853E+06	0.2688E+06	0.3307E+06	0.4651E+07	-0.1500E+08	-0.1211E+08
50	11	42.	-0.1774E+05	0.2741E+05	0.3266E+05	0.2906E+06	-0.2033E+06	0.2960E+06	0.3633E+06	0.4943E+07	-0.1846E+08	-0.1449E+08
50	10	21.	-0.1845E+05	0.2633E+05	0.3214E+05	0.2818E+06	-0.2217E+06	0.3223E+06	0.3955E+06	0.5234E+07	-0.2225E+08	-0.1709E+08
50	9	0.	-0.1914E+05	0.2521E+05	0.3165E+05	0.2703E+06	-0.2408E+06	0.3475E+06	0.4272E+06	0.5494E+07	-0.2635E+08	-0.1992E+08
50	8	0.	-0.1998E+05	0.2396E+05	0.3096E+05	0.2[illegible]E+06	-0.2608E+06	0.3712E+06	0.4581E+06	0.5687E+07	-0.3075E+08	-0.2300E+08
50	7	0.	-0.2075E+05	0.2213E+05	0.3033E+05	0.1110E+06	-0.2815E+06	0.3933E+06	0.4884E+06	0.5777E+07	-0.3543E+08	-0.2632E+08
50	6	0.	-0.2150E+05	0.2040E+05	0.2981E+05	0.3151E+05	-0.3020E+06	0.4129E+06	0.5182E+06	0.5830E+07	-0.4078E+08	-0.2990E+08
50	5	0.	-0.2236E+05	0.1905E+05	0.2937E+05	-0.1663E+05	-0.3254E+06	0.4330E+06	0.5476E+06	0.5781E+07	-0.4556E+08	-0.3375E+08
50	4	0.	-0.2340E+05	0.1679E+05	0.2905E+05	-0.8172E+05	-0.3479E+06	0.4497E+06	0.5759E+06	0.5693E+07	-0.5097E+08	-0.3787E+08
50	3	0.	-0.2482E+05	0.1277E+05	0.2804E+05	0.5758E+01	-0.3685E+06	0.4621E+06	0.5996E+06	0.5678E+07	-0.5654E+08	-0.4226E+08
50	2	0.	-0.2277E+05	0.9780E+04	0.2441E+05	0.1054E+06	-0.3909E+06	0.4719E+06	0.6229E+06	0.5807E+07	-0.6332E+08	-0.4777E+08
50	1	0.	-0.2277E+05	0.9780E+04	0.2441E+05	0.1054E+06	-0.4133E+06	0.4817E+06	0.6487E+06	0.5913E+07	-0.7022E+08	-0.5360E+08

UB	EL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
60	21	252.	-0.35[illegible]E+04	0.1741E+05	0.1741E+05	0.3070E+06	-0.0561E+04	0.1741E+05	0.1941E+05	0.8[illegible]E+06	-0.2307E+06	-0.1135E+06
60	20	231.	-0.4[illegible]E+04	0.2179E+05	0.2236E+05	0.[illegible]E+06	-0.1356E+05	0.3920E+05	0.4176E+05	0.1[illegible]E+07	-0.5775E+06	-0.2490E+06
60	19	210.	-0.4[illegible]E+04	0.2179E+05	0.2236E+05	0.[illegible]E+06	-0.1856E+05	0.6101E+05	0.6356E+05	0.1[illegible]E+07	-0.1191E+07	-0.4457E+06
60	18	189.	-0.5985E+04	0.2[illegible]E+05	0.2[illegible]E+05	0.[illegible]E+06	-0.2454E+05	0.8730E+05	0.9069E+05	0.2[illegible]E+07	-0.1561E+07	-0.7094E+06
60	17	168.	-0.3895E+04	0.3515E+05	0.3582E+05	0.3871E+06	-0.3144E+05	0.1324E+06	0.1367E+06	0.3[illegible]E+07	-0.3568E+07	-0.1052E+07
60	16	147.	-0.7605E+04	0.3491E+05	0.3589E+05	0.[illegible]E+06	-0.3924E+05	0.1664E+06	0.1714E+06	0.3[illegible]E+07	-0.5398E+07	-0.1485E+07
60	15	126.	-0.8775E+04	0.3237E+05	0.3401E+05	0.3554E+06	-0.4796E+05	0.1993E+06	0.2056E+06	0.4[illegible]E+07	-0.7640E+07	-0.2019E+07
60	14	105.	-0.9[illegible]E+04	0.3134E+05	0.3322E+05	0.3434E+06	-0.5748E+05	0.2311E+06	0.2386E+06	0.4446E+07	-0.1028E+08	-0.2665E+07
60	13	84.	-0.1053E+05	0.3065E+05	0.3256E+05	0.3259E+06	-0.6801E+05	0.2617E+06	0.2712E+06	0.4773E+07	-0.1329E+08	-0.3434E+07
60	12	63.	-0.1[illegible]E+05	0.2[illegible]E+05	0.3065E+05	0.3068E+06	-0.7855E+05	0.2905E+06	0.3018E+06	0.5079E+07	-0.1667E+08	-0.4332E+07
60	11	42.	-0.1248E+05	0.2688E+05	0.2833E+05	0.2873E+06	-0.8897E+05	0.3174E+06	0.3307E+06	0.5366E+07	-0.2040E+08	-0.5359E+07
60	10	21.	-0.1[illegible]E+05	0.2499E+05	0.2704E+05	0.2680E+06	-0.9929E+05	0.3424E+06	0.3577E+06	0.5622E+07	-0.2444E+08	-0.6509E+07
60	9	0.	-0.1074E+05	0.2310E+05	0.2552E+05	0.2455E+06	-0.1095E+06	0.3655E+06	0.3830E+06	0.5800E+07	-0.2878E+08	-0.7789E+07
60	8	0.	-0.1074E+05	0.2135E+05	0.2399E+05	0.1360E+06	-0.1205E+06	0.3868E+06	0.4070E+06	0.6018E+07	-0.3338E+08	-0.9201E+07
60	7	0.	-0.1165E+05	0.1959E+05	0.2279E+05	0.2556E+05	-0.1322E+06	0.4064E+06	0.4298E+06	0.6040E+07	-0.3824E+08	-0.1075E+08
60	6	0.	-0.1238E+05	0.1784E+05	0.2170E+05	-0.8395E+05	-0.1445E+06	0.4243E+06	0.4515E+06	0.5957E+07	-0.4333E+08	-0.1244E+08
60	5	0.	-0.1306E+05	0.1648E+05	0.2072E+05	-0.1944E+06	-0.1575E+06	0.4403E+06	0.4722E+06	0.5764E+07	-0.4863E+08	-0.1429E+08
60	4	0.	-0.1367E+05	0.1384E+05	0.1947E+05	-0.2585E+06	-0.1712E+06	0.4542E+06	0.4916E+06	0.5504E+07	-0.5411E+08	-0.1631E+08
60	3	0.	-0.1404E+05	0.1027E+05	0.1739E+05	-0.1905E+06	-0.1853E+06	0.4645E+06	0.5091E+06	0.5314E+07	-0.5974E+08	-0.1849E+08
60	2	0.	-0.1703E+05	0.8191E+04	0.1890E+05	-0.1508E+06	-0.2023E+06	0.4727E+06	0.5279E+06	0.5164E+07	-0.6652E+08	-0.2130E+08
60	1	0.	-0.1703E+05	0.8191E+04	0.1890E+05	-0.1569E+06	-0.2193E+06	0.4808E+06	0.5469E+06	0.5012E+07	-0.7342E+08	-0.2435E+08

MARKETPLACE CENTER - BOSTON (LB, LB-FT)
STRUCTURAL LOADS

WD	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
70	21	250.	0.2305E+04	0.2081E+05	0.2093E+05	0.8445E+05	0.2305E+04	0.2081E+05	0.2093E+05	0.8445E+05	-0.2757E+06	0.3054E+05
70	20	237.	0.3256E+01	0.2595E+05	0.2615E+05	0.1899E+06	0.5560E+04	0.4675E+05	0.4708E+05	0.2744E+06	-0.6895E+06	0.7871E+05
70	19	225.	0.3256E+04	0.2595E+05	0.2615E+05	0.1879E+06	0.8815E+04	0.7270E+05	0.7325E+05	0.4643E+06	-0.1421E+07	0.1667E+06
70	18	213.	0.2923E+01	0.4333E+05	0.4344E+05	0.5759E+05	0.1180E+05	0.1161E+06	0.1167E+06	0.5219E+06	-0.2577E+07	0.2931E+06
70	17	201.	0.2923E+04	0.4149E+05	0.4156E+05	0.4822E+05	0.1430E+05	0.1583E+06	0.1589E+06	0.5704E+06	-0.4253E+07	0.4530E+06
70	16	188.	0.2603E+04	0.3964E+05	0.3971E+05	0.3892E+05	0.1631E+05	0.1972E+06	0.1980E+06	0.6090E+06	-0.6426E+07	0.6404E+06
70	15	176.	0.1508E+04	0.3782E+05	0.3785E+05	0.2954E+05	0.1781E+05	0.2350E+06	0.2358E+06	0.6388E+06	-0.9074E+07	0.8495E+06
70	14	165.	0.1057E+04	0.3614E+05	0.3615E+05	0.2100E+05	0.1887E+05	0.2711E+06	0.2719E+06	0.6597E+06	-0.1217E+08	0.1074E+07
70	13	152.	0.5253E+03	0.3413E+05	0.3413E+05	0.1094E+05	0.1939E+05	0.3053E+06	0.3061E+06	0.6707E+06	-0.1570E+08	0.1308E+07
70	12	139.	0.1098E+04	0.3181E+05	0.3182E+05	0.2082E+05	0.2049E+05	0.3371E+06	0.3379E+06	0.6913E+06	-0.1964E+08	0.1553E+07
70	11	127.	0.1796E+04	0.2939E+05	0.2944E+05	0.3298E+05	0.2229E+05	0.3665E+06	0.3674E+06	0.7243E+06	-0.2394E+08	0.1815E+07
70	10	115.	0.2495E+04	0.2700E+05	0.2711E+05	0.4504E+05	0.2478E+05	0.3935E+06	0.3944E+06	0.7695E+06	-0.2860E+08	0.2103E+07
70	9	103.	0.3148E+04	0.2481E+05	0.2481E+05	0.5451E+05	0.2793E+05	0.4181E+06	0.4193E+06	0.8241E+06	-0.3357E+08	0.2426E+07
70	8	90.	0.2468E+04	0.2306E+05	0.2319E+05	-0.1339E+05	0.3037E+05	0.4412E+06	0.4425E+06	0.8109E+06	-0.3883E+08	0.2783E+07
70	7	78.	0.1734E+04	0.2151E+05	0.2158E+05	-0.8191E+05	0.3209E+05	0.4627E+06	0.4641E+06	0.7287E+06	-0.4437E+08	0.3166E+07
70	6	66.	0.1015E+01	0.1997E+05	0.1997E+05	-0.1499E+06	0.3311E+05	0.4826E+06	0.4840E+06	0.5787E+06	-0.5016E+08	0.3565E+07
70	5	54.	0.3008E+03	0.1841E+05	0.1841E+05	-0.2125E+06	0.3340E+05	0.5010E+06	0.5025E+06	0.3602E+06	-0.5621E+08	0.3972E+07
70	4	41.	-0.1234E+04	0.1618E+05	0.1624E+05	-0.2540E+06	0.3316E+05	0.5172E+06	0.5187E+06	0.1062E+06	-0.6244E+08	0.4374E+07
70	3	29.	-0.5239E+04	0.1195E+05	0.1305E+05	-0.1952E+06	0.2692E+05	0.5291E+06	0.5317E+06	-0.8903E+05	-0.6884E+08	0.4736E+07
70	2	15.	-0.1059E+05	0.9488E+04	0.1422E+05	-0.1664E+06	0.1633E+05	0.5386E+06	0.5460E+06	-0.2554E+06	-0.7656E+08	0.5049E+07
70	1	0.	-0.1059E+05	0.9488E+04	0.1422E+05	-0.1664E+06	0.5737E+01	0.5481E+06	0.5604E+06	-0.4219E+06	-0.8445E+08	0.5209E+07

WD	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
80	21	250.	0.1417E+05	0.2005E+05	0.2455E+05	-0.7077E+06	0.1417E+05	0.2005E+05	0.2455E+05	-0.7077E+06	-0.2656E+06	0.1877E+05
80	20	237.	0.7960E+04	0.2471E+05	0.2596E+05	-0.6917E+06	0.2212E+05	0.4476E+05	0.5050E+05	-0.1399E+07	-0.6625E+06	0.4099E+05
80	19	225.	0.7960E+04	0.2471E+05	0.2596E+05	-0.6917E+06	0.3008E+05	0.6945E+05	0.7645E+05	-0.2091E+07	-0.1362E+07	0.7298E+05
80	18	213.	0.7678E+04	0.4374E+05	0.4144E+05	-0.3423E+06	0.3777E+05	0.1132E+06	0.1209E+06	-0.2440E+07	-0.2481E+07	0.1145E+06
80	17	201.	0.8298E+04	0.4204E+05	0.4285E+05	-0.3257E+06	0.4606E+05	0.1553E+06	0.1638E+06	-0.2765E+07	-0.4126E+07	0.1659E+06
80	16	188.	0.8908E+01	0.4032E+05	0.4129E+05	-0.3032E+06	0.5497E+05	0.1956E+06	0.2050E+06	-0.3048E+07	-0.6277E+07	0.2278E+06
80	15	176.	0.9504E+04	0.3860E+05	0.3975E+05	-0.2804E+06	0.6448E+05	0.2342E+06	0.2448E+06	-0.3349E+07	-0.8908E+07	0.3010E+06
80	14	165.	0.1009E+05	0.3702E+05	0.3837E+05	-0.2597E+06	0.7458E+05	0.2712E+06	0.2832E+06	-0.3609E+07	-0.1200E+08	0.3861E+06
80	13	152.	0.1078E+05	0.3516E+05	0.3678E+05	-0.2354E+06	0.8533E+05	0.3064E+06	0.3199E+06	-0.3844E+07	-0.1554E+08	0.4841E+06
80	12	139.	0.1079E+05	0.3241E+05	0.3416E+05	-0.1969E+06	0.9614E+05	0.3388E+06	0.3541E+06	-0.4041E+07	-0.1949E+08	0.5952E+06
80	11	127.	0.1077E+05	0.2954E+05	0.3144E+05	-0.1566E+06	0.1069E+06	0.3683E+06	0.3856E+06	-0.4197E+07	-0.2382E+08	0.7198E+06
80	10	115.	0.1074E+05	0.2669E+05	0.2877E+05	-0.1166E+06	0.1177E+06	0.3950E+06	0.4143E+06	-0.4314E+07	-0.2850E+08	0.8572E+06
80	9	103.	0.1070E+05	0.2387E+05	0.2616E+05	-0.7761E+05	0.1284E+06	0.4189E+06	0.4405E+06	-0.4391E+07	-0.3348E+08	0.1008E+07
80	8	90.	0.1067E+05	0.2268E+05	0.2490E+05	-0.8086E+05	0.1386E+06	0.4416E+06	0.4654E+06	-0.4472E+07	-0.3876E+08	0.1172E+07
80	7	78.	0.9830E+04	0.2149E+05	0.2363E+05	-0.8423E+05	0.1484E+06	0.4631E+06	0.4890E+06	-0.4557E+07	-0.4429E+08	0.1347E+07
80	6	66.	0.9394E+04	0.2030E+05	0.2237E+05	-0.8748E+05	0.1578E+06	0.4834E+06	0.5114E+06	-0.4644E+07	-0.5009E+08	0.1535E+07
80	5	54.	0.8953E+04	0.1911E+05	0.2111E+05	-0.9085E+05	0.1668E+06	0.5025E+06	0.5325E+06	-0.4735E+07	-0.5615E+08	0.1734E+07
80	4	41.	0.6923E+04	0.1685E+05	0.1822E+05	-0.8638E+05	0.1737E+06	0.5193E+06	0.5507E+06	-0.4822E+07	-0.6239E+08	0.1942E+07
80	3	29.	0.2045E+03	0.1145E+05	0.1145E+05	-0.5730E+05	0.1739E+06	0.5307E+06	0.5621E+06	-0.4881E+07	-0.6884E+08	0.2155E+07
80	2	15.	-0.7149E+04	0.7607E+04	0.1044E+05	-0.4044E+05	0.1667E+06	0.5384E+06	0.5726E+06	-0.4921E+07	-0.7656E+08	0.2402E+07
80	1	0.	-0.7149E+04	0.7607E+04	0.1044E+05	-0.4044E+05	0.1596E+06	0.5460E+06	0.5830E+06	-0.4962E+07	-0.8445E+08	0.2639E+07

MARKETPLACE CENTER - BOSTON (LB, LB-FT)
STRUCTURAL LOADS

WD	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
90	21	250.	0.2509E+05	0.2033E+05	0.4056E+05	-0.6912E+06	0.3509E+05	0.2035E+05	0.4056E+05	-0.6912E+06	-0.2697E+06	0.4649E+06
90	20	[illegible]	[illegible]	0.2457E+05	0.3404E+05	-0.5665E+06	0.5852E+05	0.4502E+05	0.7463E+05	-0.1258E+07	-0.6702E+06	0.1039E+07
90	19	202.	0.2347E+05	0.2467E+05	0.3404E+05	-0.5665E+06	0.8203E+05	0.6967E+05	0.1087E+06	-0.1825E+07	-0.1372E+07	0.1699E+07
90	18	[illegible]	0.1926E+05	0.4236E+05	0.4774E+05	-0.1946E+06	0.1013E+06	0.1134E+06	0.1564E+06	-0.2019E+07	-0.2494E+07	0.3022E+07
90	17	201.	0.1953E+05	0.4157E+05	0.4593E+05	-0.1701E+06	0.1208E+06	0.1549E+06	0.2023E+06	-0.2169E+07	-0.4137E+07	0.4382E+07
90	16	186.	0.1977E+05	0.3949E+05	0.4417E+05	-0.1458E+06	0.1406E+06	0.1944E+06	0.2465E+06	-0.2335E+07	-0.6277E+07	0.5985E+07
90	15	171.	0.2002E+05	0.3740E+05	0.4242E+05	-0.1214E+06	0.1606E+06	0.2318E+06	0.2889E+06	-0.2456E+07	-0.8836E+07	0.7827E+07
90	14	156.	0.2028E+05	0.3549E+05	0.4082E+05	-0.9907E+05	0.1809E+06	0.2673E+06	0.3297E+06	-0.2556E+07	-0.1195E+08	0.9916E+07
90	13	152.	0.2051E+05	0.3424E+05	0.3990E+05	-0.9231E+05	0.2014E+06	0.3006E+06	0.3689E+06	-0.2628E+07	-0.1542E+08	0.1226E+08
90	12	141.	0.2017E+05	0.3099E+05	0.3714E+05	-0.7403E+05	0.2219E+06	0.3316E+06	0.4060E+06	-0.2663E+07	-0.1929E+08	0.1485E+08
90	11	127.	0.2039E+05	0.2874E+05	0.3524E+05	0.6159E+04	0.2423E+06	0.3603E+06	0.4412E+06	-0.2656E+07	-0.2353E+08	0.1770E+08
90	10	115.	0.2021E+05	0.2650E+05	0.3329E+05	0.4661E+05	0.2626E+06	0.3868E+06	0.4746E+06	-0.2609E+07	-0.2811E+08	0.2079E+08
90	9	103.	0.2003E+05	0.2423E+05	0.3150E+05	0.8605E+05	0.2828E+06	0.4111E+06	0.5062E+06	-0.2533E+07	-0.3300E+08	0.2413E+08
90	8	90.	0.2012E+05	0.2236E+05	0.3018E+05	0.9442E+05	0.3029E+06	0.4337E+06	0.5365E+06	-0.2429E+07	-0.3817E+08	0.2772E+08
90	7	78.	0.2001E+05	0.2095E+05	0.2899E+05	0.1027E+06	0.3229E+06	0.4547E+06	0.5654E+06	-0.2326E+07	-0.4361E+08	0.3155E+08
90	6	66.	0.1990E+05	0.1925E+05	0.2776E+05	0.1109E+06	0.3428E+06	0.4740E+06	0.5930E+06	-0.2215E+07	-0.4930E+08	0.3563E+08
90	5	54.	0.1920E+05	0.1771E+05	0.2656E+05	0.1192E+06	0.3626E+06	0.4917E+06	0.6200E+06	-0.2096E+07	-0.5522E+08	0.3995E+08
90	4	41.	0.1726E+05	0.1503E+05	0.2296E+05	0.1158E+06	0.3799E+06	0.5068E+06	0.6426E+06	-0.1980E+07	-0.6134E+08	0.4449E+08
90	3	29.	0.8136E+04	0.9294E+04	0.1236E+05	0.7827E+05	0.3881E+06	0.5169E+06	0.6553E+06	-0.1902E+07	-0.6757E+08	0.4920E+08
90	2	15.	-0.6057E+03	0.4692E+04	0.4720E+04	0.5144E+05	0.3876E+06	0.5207E+06	0.6597E+06	-0.1851E+07	-0.7513E+08	0.5482E+08
90	1	0.	-0.5887E+03	0.4692E+04	0.4720E+04	0.5144E+05	0.3871E+06	0.5255E+06	0.6647E+06	-0.1799E+07	-0.8268E+08	0.6046E+08

WD	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
100	21	250.	0.3288E+05	0.2341E+05	0.4036E+05	-0.7127E+06	0.3288E+05	0.2341E+05	0.4036E+05	-0.7127E+06	-0.3102E+06	0.4357E+06
100	20	242.	0.3201E+05	0.2734E+05	0.3872E+05	-0.7863E+06	0.5990E+05	0.5115E+05	0.7910E+05	-0.9989E+06	-0.7667E+06	0.1004E+07
100	19	226.	0.2991E+05	0.2734E+05	0.3872E+05	-0.2863E+06	0.8688E+05	0.7788E+05	0.1178E+06	-0.1208E+07	-0.1563E+07	0.1902E+07
100	18	213.	0.1938E+05	0.4744E+05	0.5036E+05	-0.1709E+06	0.1063E+06	0.1254E+06	0.1682E+06	-0.1456E+07	-0.2814E+07	0.3086E+07
100	17	201.	0.1918E+05	0.4439E+05	0.4836E+05	-0.1577E+06	0.1255E+06	0.1698E+06	0.2165E+06	-0.1614E+07	-0.4622E+07	0.4506E+07
100	16	186.	0.1898E+05	0.4252E+05	0.4639E+05	-0.1449E+06	0.1445E+06	0.2121E+06	0.2629E+06	-0.1759E+07	-0.6761E+07	0.6161E+07
100	15	171.	0.1878E+05	0.4026E+05	0.4441E+05	-0.1318E+06	0.1632E+06	0.2524E+06	0.3073E+06	-0.1870E+07	-0.9807E+07	0.8042E+07
100	14	156.	0.1859E+05	0.3863E+05	0.4282E+05	-0.1206E+06	0.1818E+06	0.2907E+06	0.3499E+06	-0.2011E+07	-0.1313E+08	0.1015E+08
100	13	152.	0.1837E+05	0.3611E+05	0.4053E+05	-0.1057E+06	0.2002E+06	0.3268E+06	0.3905E+06	-0.2116E+07	-0.1691E+08	0.1250E+08
100	12	139.	0.1854E+05	0.3401E+05	0.3874E+05	-0.9234E+05	0.2187E+06	0.3608E+06	0.4292E+06	-0.2180E+07	-0.2113E+08	0.1506E+08
100	11	127.	0.1877E+05	0.3190E+05	0.3701E+05	-0.1717E+05	0.2375E+06	0.3927E+06	0.4662E+06	-0.2197E+07	-0.2574E+08	0.1786E+08
100	10	115.	0.1899E+05	0.2980E+05	0.3534E+05	0.2859E+05	0.2565E+06	0.4225E+06	0.5016E+06	-0.2168E+07	-0.3074E+08	0.2088E+08
100	9	103.	0.1922E+05	0.2771E+05	0.3372E+05	0.7298E+05	0.2757E+06	0.4502E+06	0.5353E+06	-0.2096E+07	-0.3608E+08	0.2414E+08
100	8	90.	0.2002E+05	0.2596E+05	0.3279E+05	0.6421E+05	0.2957E+06	0.4762E+06	0.5681E+06	-0.2031E+07	-0.4176E+08	0.2764E+08
100	7	78.	0.2083E+05	0.2430E+05	0.3193E+05	0.5544E+05	0.3166E+06	0.5004E+06	0.6001E+06	-0.1976E+07	-0.4774E+08	0.3139E+08
100	6	66.	0.2165E+05	0.2246E+05	0.3118E+05	0.4667E+05	0.3382E+06	0.5229E+06	0.6310E+06	-0.1929E+07	-0.5400E+08	0.3540E+08
100	5	54.	0.2044E+05	0.2070E+05	0.3053E+05	0.3786E+05	0.3606E+06	0.5435E+06	0.6619E+06	-0.1891E+07	-0.6051E+08	0.3968E+08
100	4	41.	0.2015E+05	0.1740E+05	0.2663E+05	0.3537E+05	0.3808E+06	0.5610E+06	0.6884E+06	-0.1856E+07	-0.6730E+08	0.4423E+08
100	3	29.	0.8021E+04	0.9570E+04	0.1302E+05	0.5058E+05	0.3896E+06	0.5704E+06	0.7011E+06	-0.1805E+07	-0.7425E+08	0.4894E+08
100	2	15.	-0.1997E+04	0.2709E+04	0.3365E+04	0.7673E+05	0.3876E+06	0.5731E+06	0.7049E+06	-0.1729E+07	-0.8252E+08	0.5458E+08
100	1	0.	-0.1997E+04	0.2709E+04	0.3365E+04	0.7673E+05	0.3856E+06	0.5755E+06	0.7083E+06	-0.1652E+07	-0.9085E+08	0.6018E+08

MARKETPLACE CENTER - BOSTON (LB, LB-FT)
STRUCTURAL LOADS

WD	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
110	21	250.	0.2740E+05	0.1316E+05	0.3039E+05	-0.2275E+06	0.2740E+05	0.1316E+05	0.3039E+05	-0.2275E+06	-0.1743E+06	0.3630E+06
110	20	237.	0.2230E+05	0.1531E+05	0.2705E+05	0.2301E+05	0.4970E+05	0.2846E+05	0.5743E+05	-0.2045E+06	-0.4292E+06	0.8353E+06
110	19	225.	0.2230E+05	0.1531E+05	0.2705E+05	0.2301E+05	0.7201E+05	0.4376E+05	0.8449E+05	-0.1815E+06	-0.8716E+06	0.1581E+07
110	18	213.	0.1652E+05	0.2406E+05	0.2918E+05	0.7220E+05	0.8851E+05	0.6782E+05	0.1137E+06	-0.1043E+06	-0.1555E+07	0.2564E+07
110	17	201.	0.1629E+05	0.2315E+05	0.2831E+05	0.8556E+05	0.1048E+06	0.9098E+05	0.1420E+06	-0.1877E+05	-0.2528E+07	0.3748E+07
110	16	189.	0.1606E+05	0.2225E+05	0.2744E+05	0.9389E+05	0.1209E+06	0.1132E+06	0.1694E+06	0.7512E+05	-0.3778E+07	0.5129E+07
110	15	177.	0.1583E+05	0.2134E+05	0.2657E+05	0.1023E+06	0.1367E+06	0.1345E+06	0.1960E+06	0.1774E+06	-0.5296E+07	0.6707E+07
110	14	165.	0.1560E+05	0.2043E+05	0.2570E+05	0.1092E+06	0.1523E+06	0.1551E+06	0.2218E+06	0.2873E+06	-0.7070E+07	0.8477E+07
110	12	139.	0.1521E+05	0.1834E+05	0.2382E+05	0.1255E+06	0.1829E+06	0.1746E+06	0.2467E+06	0.4061E+06	-0.9090E+07	0.1044E+08
110	11	127.	0.1505E+05	0.1711E+05	0.2279E+05	0.1319E+06	0.1980E+06	0.2101E+06	0.2932E+06	0.6636E+06	-0.1134E+08	0.1259E+08
110	10	115.	0.1489E+05	0.1589E+05	0.2178E+05	0.1382E+06	0.2129E+06	0.2259E+06	0.3150E+06	0.8018E+06	-0.1381E+08	0.1492E+08
110	9	103.	0.1473E+05	0.1469E+05	0.2080E+05	0.1441E+06	0.2276E+06	0.2406E+06	0.3358E+06	0.9461E+06	-0.1648E+08	0.1744E+08
110	8	90.	0.1473E+05	0.1424E+05	0.2049E+05	0.1568E+06	0.2423E+06	0.2549E+06	0.3563E+06	0.1082E+07	-0.2237E+08	0.2301E+08
110	7	78.	0.1473E+05	0.1380E+05	0.2018E+05	0.1784E+06	0.2571E+06	0.2687E+06	0.3765E+06	0.1211E+07	-0.2553E+08	0.2607E+08
110	6	66.	0.1472E+05	0.1336E+05	0.1988E+05	0.1206E+06	0.2718E+06	0.2820E+06	0.3964E+06	0.1331E+07	-0.2895E+08	0.2931E+08
110	5	54.	0.1471E+05	0.1291E+05	0.1958E+05	0.1127E+06	0.2865E+06	0.2950E+06	0.4161E+06	0.1444E+07	-0.3249E+08	0.3273E+08
110	4	41.	0.1276E+05	0.1107E+05	0.1689E+05	0.1129E+06	0.2993E+06	0.3060E+06	0.4328E+06	0.1557E+07	-0.3617E+08	0.3631E+08
110	3	29.	0.5083E+04	0.5113E+04	0.7209E+04	0.1365E+06	0.3043E+06	0.3111E+06	0.4400E+06	0.1693E+07	-0.3993E+08	0.4001E+08
110	2	15.	-0.[illegible]E+04	-0.4962E+03	0.2476E+04	0.1825E+06	0.3019E+06	0.3106E+06	0.4424E+06	0.1891E+07	-0.4444E+08	0.4440E+08
110	1	0.	-0.2426E+04	-0.4962E+03	0.2476E+04	0.1875E+06	0.2995E+06	0.3101E+06	0.4452E+06	0.2068E+07	-0.4894E+08	0.4878E+08

WD	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
120	21	250.	0.3694E+05	0.3600E+04	0.3792E+05	0.4834E+06	0.3694E+05	0.3600E+04	0.3792E+05	0.4834E+06	-0.1139E+06	0.4894E+06
120	20	237.	0.2044E+05	0.9863E+04	0.2270E+05	0.8254E+05	0.5739E+05	0.1847E+05	0.6062E+05	0.5659E+06	-0.2797E+06	0.1067E+07
120	19	225.	0.2044E+05	0.9863E+04	0.2270E+05	0.8254E+05	0.7779E+05	0.2833E+05	0.8333E+05	0.6484E+06	-0.5663E+06	0.1895E+07
120	18	213.	0.1566E+05	0.1540E+05	0.2196E+05	0.6109E+05	0.9346E+05	0.4372E+05	0.1053E+06	0.7094E+06	-0.1008E+07	0.2944E+07
120	17	201.	0.1496E+05	0.1473E+05	0.2099E+05	0.7018E+05	0.1084E+06	0.5846E+05	0.1263E+06	0.7795E+06	-0.1634E+07	0.4181E+07
120	16	189.	0.1426E+05	0.1408E+05	0.2004E+05	0.7923E+05	0.1227E+06	0.7253E+05	0.1463E+06	0.8588E+06	-0.2436E+07	0.5595E+07
120	14	165.	0.1291E+05	0.1282E+05	0.1819E+05	0.9664E+05	0.1491E+06	0.9876E+05	0.1836E+06	0.1044E+07	-0.4539E+07	0.8931E+07
120	13	152.	0.1215E+05	0.1211E+05	0.1716E+05	0.1064E+06	0.1613E+06	0.1109E+06	0.2007E+06	0.1150E+07	-0.5823E+07	0.1083E+08
120	12	139.	0.1196E+05	0.1155E+05	0.1663E+05	0.1123E+06	0.1733E+06	0.1224E+06	0.2174E+06	0.1263E+07	-0.7253E+07	0.1288E+08
120	11	127.	0.1184E+05	0.1101E+05	0.1616E+05	0.1178E+06	0.1851E+06	0.1334E+06	0.2335E+06	0.1381E+07	-0.8819E+07	0.1508E+08
120	10	115.	0.1171E+05	0.1047E+05	0.1571E+05	0.1232E+06	0.1968E+06	0.1439E+06	0.2492E+06	0.1504E+07	-0.1052E+08	0.1742E+08
120	9	103.	0.1159E+05	0.9947E+04	0.1529E+05	0.1281E+06	0.2084E+06	0.1539E+06	0.2645E+06	0.1632E+07	-0.1234E+08	0.1990E+08
120	8	90.	0.1172E+05	0.1004E+05	0.1543E+05	0.1145E+06	0.2201E+06	0.1639E+06	0.2799E+06	0.1746E+07	-0.1429E+08	0.2252E+08
120	7	78.	0.1195E+05	0.1013E+05	0.1559E+05	0.1008E+06	0.2320E+06	0.1740E+06	0.2955E+06	0.1847E+07	-0.1636E+08	0.2529E+08
120	6	66.	0.1196E+05	0.1021E+05	0.1574E+05	0.8724E+05	0.2439E+06	0.1842E+06	0.3113E+06	0.1934E+07	-0.1855E+08	0.2821E+08
120	5	54.	0.1211E+05	0.1031E+05	0.1590E+05	0.7353E+05	0.2561E+06	0.1946E+06	0.3272E+06	0.2008E+07	-0.2087E+08	0.3127E+08
120	4	41.	0.1042E+05	0.8911E+04	0.1371E+05	0.7656E+05	0.2685E+06	0.2025E+06	0.3409E+06	0.2084E+07	-0.2331E+08	0.3447E+08
120	3	29.	0.3419E+04	0.3175E+04	0.4667E+04	0.1251E+06	0.2699E+06	0.2064E+06	0.3455E+06	0.2213E+07	-0.2582E+08	0.3776E+08
120	2	15.	-0.3418E+04	-0.2515E+04	0.4448E+04	0.2083E+06	0.2683E+06	0.2041E+06	0.3500E+06	0.2401E+07	-0.2880E+08	0.4165E+08
120	1	0.	-0.3648E+04	-0.2545E+04	0.4448E+04	0.2083E+06	0.2626E+06	0.2015E+06	0.3545E+06	0.2629E+07	-0.3174E+08	0.4547E+08

MARKETPLACE CENTER - BOSTON (LB, LB-FT)
STRUCTURAL LOADS

WB	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
130	21	256.	0.3413E+05	0.5242E+04	0.3408E+05	0.2556E+06	0.3448E+05	0.5273E+04	0.3488E+05	0.2556E+06	-0.6736E+05	0.4567E+06
130	20	247.	0.2455E+05	0.4412E+04	0.2566E+05	-0.7029E+05	0.5934E+05	0.1168E+05	0.6054E+05	0.1853E+06	-0.1737E+06	0.1031E+07
130	19	238.	0.2485E+05	0.6412E+04	0.2564E+05	-0.7038E+05	0.8417E+05	0.1909E+05	0.8620E+05	0.1149E+06	-0.3561E+06	0.1910E+07
130	18	213.	0.2081E+05	0.1059E+05	0.2334E+05	-0.4436E+05	0.1042E+06	0.2869E+05	0.1088E+06	0.7094E+05	-0.6424E+06	0.3064E+07
130	17	201.	0.1955E+05	0.9896E+04	0.2191E+05	-0.3754E+04	0.1239E+06	0.3838E+05	0.1306E+06	0.6727E+05	-0.1053E+07	0.4460E+07
130	16	188.	0.1938E+05	0.8805E+04	0.2120E+05	0.2451E+05	0.1431E+06	0.4719E+05	0.1520E+06	0.1018E+06	-0.1577E+07	0.6098E+07
130	15	176.	0.1891E+05	0.7915E+04	0.2050E+05	0.7859E+05	0.1620E+06	0.5512E+05	0.1724E+06	0.1834E+06	-0.2204E+07	0.7963E+07
130	14	165.	0.1850E+05	0.7103E+04	0.1989E+05	0.1156E+06	0.1808E+06	0.6221E+05	0.1923E+06	0.2924E+06	-0.2922E+07	0.1006E+08
130	13	152.	0.1810E+05	0.6141E+04	0.1919E+05	0.1601E+06	0.1989E+06	0.6835E+05	0.2115E+06	0.4575E+06	-0.3722E+07	0.1239E+08
130	12	139.	0.1770E+05	0.5077E+04	0.1894E+05	0.1777E+06	0.2168E+06	0.7433E+05	0.2305E+06	0.6373E+06	-0.4595E+07	0.1492E+08
130	11	127.	0.1732E+05	0.5898E+04	0.1877E+05	0.1926E+06	0.2346E+06	0.8022E+05	0.2492E+06	0.8297E+06	-0.5544E+07	0.1769E+08
130	10	115.	0.1726E+05	0.5819E+04	0.1859E+05	0.2062E+06	0.2523E+06	0.8604E+05	0.2679E+06	0.1032E+07	-0.6560E+07	0.2068E+08
130	9	103.	0.1740E+05	0.5747E+04	0.1840E+05	0.2207E+06	0.2697E+06	0.9178E+05	0.2863E+06	0.1258E+07	-0.7652E+07	0.2388E+08
130	8	90.	0.1690E+05	0.5621E+04	0.1793E+05	0.1948E+06	0.2867E+06	0.9740E+05	0.3042E+06	0.1457E+07	-0.8812E+07	0.2728E+08
130	7	78.	0.1665E+05	0.5934E+04	0.1768E+05	0.1688E+06	0.3031E+06	0.1035E+06	0.3216E+06	0.1615E+07	-0.1004E+08	0.3090E+08
130	6	66.	0.1620E+05	0.5994E+04	0.1725E+06	0.1424E+06	0.3190E+06	0.1095E+06	0.3386E+06	0.1764E+07	-0.1135E+08	0.3471E+08
130	5	54.	0.1538E+05	0.6073E+04	0.1652E+05	0.1154E+06	0.3344E+06	0.1156E+06	0.3551E+06	0.1880E+07	-0.1273E+08	0.3871E+08
130	4	41.	0.1386E+05	0.4643E+04	0.1367E+05	0.1039E+06	0.3472E+06	0.1202E+06	0.3688E+06	0.1984E+07	-0.1417E+08	0.4288E+08
130	3	29.	0.4572E+04	-0.1243E+04	0.4743E+04	0.1304E+06	0.3518E+06	0.1190E+06	0.3735E+06	0.2115E+07	-0.1564E+08	0.4715E+08
130	2	15.	-0.3831E+04	-0.7919E+04	0.8736E+04	0.1836E+06	0.3481E+06	0.1111E+06	0.3823E+06	0.2278E+07	-0.1730E+08	0.5225E+08
130	1	0.	-0.3684E+04	-0.7919E+04	0.8736E+04	0.1836E+06	0.3445E+06	0.1032E+06	0.3910E+06	0.2482E+07	-0.1886E+08	0.5727E+08

WB	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
140	21	256.	0.4731E+05	0.2973E+04	0.4743E+05	0.3736E+06	0.4731E+05	0.2973E+04	0.4743E+05	0.3736E+06	-0.3939E+05	0.6269E+06
140	20	247.	0.4136E+05	0.3656E+04	0.4276E+05	0.2269E+06	0.8991E+05	0.6628E+04	0.9015E+05	0.5998E+06	-0.9820E+05	0.1467E+07
140	19	238.	0.4236E+05	0.3656E+04	0.4276E+05	0.2269E+06	0.1325E+06	0.1029E+05	0.1329E+06	0.8270E+06	-0.2018E+06	0.2830E+07
140	18	213.	0.3454E+05	0.1061E+05	0.3612E+05	0.1827E+06	0.1670E+06	0.2090E+05	0.1690E+06	0.1110E+07	-0.3928E+06	0.4663E+07
140	17	201.	0.3330E+05	0.9955E+04	0.3476E+05	0.2044E+06	0.2003E+06	0.3085E+05	0.2038E+06	0.1404E+07	-0.7098E+06	0.6915E+07
140	16	188.	0.3202E+05	0.9302E+04	0.3340E+05	0.2357E+06	0.2334E+06	0.4013E+05	0.2372E+06	0.1710E+07	-0.1145E+07	0.9565E+07
140	15	176.	0.3065E+05	0.8640E+04	0.3204E+05	0.3175E+06	0.2633E+06	0.4870E+05	0.2692E+06	0.2032E+07	-0.1689E+07	0.1260E+08
140	14	165.	0.2973E+05	0.8042E+04	0.3080E+05	0.2981E+06	0.2930E+06	0.5683E+05	0.3000E+06	0.2355E+07	-0.2337E+07	0.1601E+08
140	13	152.	0.2841E+05	0.7337E+04	0.2934E+05	0.3406E+06	0.3214E+06	0.6416E+05	0.3293E+06	0.2696E+07	-0.3077E+07	0.1977E+08
140	12	139.	0.2756E+05	0.7130E+04	0.2841E+05	0.3426E+06	0.3489E+06	0.7130E+05	0.3578E+06	0.3044E+07	-0.3907E+07	0.2388E+08
140	11	127.	0.2663E+05	0.6974E+04	0.2753E+05	0.3537E+06	0.3755E+06	0.7827E+05	0.3853E+06	0.3397E+07	-0.4822E+07	0.2832E+08
140	10	115.	0.2577E+05	0.6824E+04	0.2665E+05	0.3603E+06	0.4013E+06	0.8509E+05	0.4121E+06	0.3758E+07	-0.5823E+07	0.3307E+08
140	9	103.	0.2490E+05	0.6667E+04	0.2578E+05	0.3638E+06	0.4260E+06	0.9178E+05	0.4376E+06	0.4121E+07	-0.6907E+07	0.3814E+08
140	8	90.	0.2436E+05	0.6392E+04	0.2509E+05	0.3805E+06	0.4503E+06	0.9816E+05	0.4627E+06	0.4404E+07	-0.8070E+07	0.4352E+08
140	7	78.	0.2361E+05	0.6117E+04	0.2439E+05	0.1966E+06	0.4743E+06	0.1043E+06	0.4874E+06	0.4592E+07	-0.9310E+07	0.4918E+08
140	6	66.	0.2297E+05	0.5842E+04	0.2370E+05	0.1134E+06	0.4970E+06	0.1101E+06	0.5109E+06	0.4711E+07	-0.1062E+08	0.5512E+08
140	5	54.	0.2233E+05	0.5567E+04	0.2300E+05	0.2950E+05	0.5193E+06	0.1157E+06	0.5340E+06	0.4743E+07	-0.1201E+08	0.6133E+08
140	4	41.	0.1692E+05	0.3293E+04	0.1723E+05	-0.1459E+05	0.5384E+06	0.1191E+06	0.5532E+06	0.4724E+07	-0.1345E+08	0.6783E+08
140	3	29.	0.7460E+04	-0.4340E+04	0.8632E+04	0.5504E+05	0.5456E+06	0.1147E+06	0.5619E+06	0.4783E+07	-0.1488E+08	0.7445E+08
140	2	15.	-0.3767E+04	-0.1353E+05	0.1415E+05	0.1412E+06	0.5420E+06	0.1011E+06	0.5739E+06	0.4922E+07	-0.1644E+08	0.8234E+08
140	1	0.	-0.3767E+04	-0.1363E+05	0.1415E+05	0.1418E+06	0.5384E+06	0.8748E+05	0.5902E+06	0.5065E+07	-0.1791E+08	0.9019E+08

MARKETPLACE CENTER - BOSTON (LB, LB-FT)
STRUCTURAL LOADS

WD	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
150	21	250.	0.5017E+05	0.3056E+04	0.5027E+05	0.2159E+06	0.5017E+05	0.3056E+04	0.5027E+05	0.2159E+06	-0.4050E+05	0.6649E+06
150	20	237.	0.4773E+05	0.3446E+04	0.4785E+05	0.1458E+06	0.9791E+05	0.6500E+04	0.9812E+05	0.3616E+06	-0.9905E+05	0.1572E+07
150	19	225.	0.4773E+05	0.3446E+04	0.4785E+05	0.1458E+06	0.1456E+06	0.9951E+04	0.1460E+06	0.5074E+06	-0.1998E+06	0.3043E+07
150	18	213.	0.4000E+05	0.9822E+04	0.4118E+05	0.2541E+06	0.1856E+06	0.1977E+05	0.1872E+06	0.7614E+06	-0.3812E+06	0.5092E+07
150	17	201.	0.3813E+05	0.9301E+04	0.3925E+05	0.2647E+06	0.2237E+06	0.2907E+05	0.2264E+06	0.1026E+07	-0.6809E+06	0.7599E+07
150	16	188.	0.3628E+05	0.8760E+04	0.3732E+05	0.2753E+06	0.2600E+06	0.3785E+05	0.2637E+06	0.1303E+07	-0.1091E+07	0.1056E+08
150	15	176.	0.3411E+05	0.8254E+04	0.3509E+05	0.2859E+06	0.2945E+06	0.4610E+05	0.2991E+06	0.1587E+07	-0.1605E+07	0.1396E+08
150	14	165.	0.3272E+05	0.7774E+04	0.3362E+05	0.2956E+06	0.3272E+06	0.5386E+05	0.3327E+06	0.1883E+07	-0.2218E+07	0.1777E+08
150	13	152.	0.3071E+05	0.7213E+04	0.3155E+05	0.3070E+06	0.3579E+06	0.6108E+05	0.3643E+06	0.2170E+07	-0.2922E+07	0.2196E+08
150	12	139.	0.2987E+05	0.7011E+04	0.3069E+05	0.2902E+06	0.3875E+06	0.6809E+05	0.3940E+06	0.2481E+07	-0.3713E+07	0.2653E+08
150	11	127.	0.2873E+05	0.6851E+04	0.2953E+05	0.2709E+06	0.4163E+06	0.7496E+05	0.4243E+06	0.2752E+07	-0.4589E+07	0.3145E+08
150	10	115.	0.2779E+05	0.6696E+04	0.2858E+05	0.2515E+06	0.4441E+06	0.8166E+05	0.4529E+06	0.3003E+07	-0.5551E+07	0.3672E+08
150	9	103.	0.2689E+05	0.6534E+04	0.2765E+05	0.2302E+06	0.4709E+06	0.8816E+05	0.4805E+06	0.3233E+07	-0.6588E+07	0.4233E+08
150	8	90.	0.2603E+05	0.6299E+04	0.2678E+05	0.1815E+06	0.4972E+06	0.9445E+05	0.5076E+06	0.3395E+07	-0.7707E+07	0.4825E+08
150	7	78.	0.2581E+05	0.6067E+04	0.2651E+05	0.9215E+05	0.5231E+06	0.1009E+06	0.5339E+06	0.3487E+07	-0.8904E+07	0.5453E+08
150	6	66.	0.2538E+05	0.5834E+04	0.2595E+05	0.2334E+05	0.5484E+06	0.1064E+06	0.5602E+06	0.3510E+07	-0.1017E+08	0.6108E+08
150	5	54.	0.2476E+05	0.5597E+04	0.2538E+05	-0.4597E+05	0.5731E+06	0.1120E+06	0.5855E+06	0.3464E+07	-0.1151E+08	0.6794E+08
150	4	41.	0.2117E+05	0.3224E+04	0.2141E+05	-0.2114E+05	0.5943E+06	0.1152E+06	0.6067E+06	0.3393E+07	-0.1290E+08	0.7511E+08
150	3	29.	0.8429E+04	-0.5412E+04	0.1019E+05	0.3058E+05	0.6030E+06	0.1098E+06	0.6170E+06	0.3424E+07	-0.1427E+08	0.8244E+08
150	2	15.	-0.4544E+04	-0.1591E+05	0.1631E+05	0.1401E+06	0.5994E+06	0.9389E+05	0.6335E+06	0.3572E+07	-0.1575E+08	0.9115E+08
150	1	0.	-0.3586E+04	-0.1591E+05	0.1631E+05	0.1431E+06	0.5958E+06	0.7795E+05	0.6495E+06	0.3720E+07	-0.1700E+08	0.9982E+08

WD	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
160	21	250.	0.5448E+05	0.2196E+04	0.5453E+05	0.2515E+05	0.5448E+05	0.2196E+04	0.5453E+05	0.2515E+05	-0.2909E+05	0.7222E+06
160	20	237.	0.5174E+05	0.2050E+04	0.5174E+05	0.6704E+05	0.1062E+06	0.4246E+04	0.1063E+06	0.8723E+05	-0.6856E+05	0.1706E+07
160	19	225.	0.5174E+05	0.2050E+04	0.5174E+05	0.6704E+05	0.1579E+06	0.6294E+04	0.1581E+06	0.1493E+06	-0.1331E+06	0.3324E+07
160	18	213.	0.3895E+05	0.5179E+04	0.3930E+05	0.2826E+05	0.1969E+06	0.1148E+05	0.1974E+06	0.1775E+06	-0.2419E+06	0.5499E+07
160	17	201.	0.3716E+05	0.4958E+04	0.3749E+05	0.4165E+05	0.2340E+06	0.1644E+05	0.2348E+06	0.2192E+06	-0.4129E+06	0.8135E+07
160	16	188.	0.3539E+05	0.4727E+04	0.3570E+05	0.5479E+05	0.2694E+06	0.2117E+05	0.2706E+06	0.2741E+06	-0.6433E+06	0.1122E+08
160	15	176.	0.3369E+05	0.4514E+04	0.3390E+05	0.6648E+05	0.3030E+06	0.2568E+05	0.3045E+06	0.3426E+06	-0.9301E+06	0.1473E+08
160	14	165.	0.3197E+05	0.4312E+04	0.3226E+05	0.8068E+05	0.3350E+06	0.3000E+05	0.3367E+06	0.4233E+06	-0.1271E+07	0.1863E+08
160	13	152.	0.3005E+05	0.4073E+04	0.3033E+05	0.9513E+05	0.3651E+06	0.3407E+05	0.3670E+06	0.5104E+06	-0.1664E+07	0.2293E+08
160	12	139.	0.2824E+05	0.4028E+04	0.2853E+05	0.7222E+05	0.3933E+06	0.3810E+05	0.3956E+06	0.5907E+06	-0.2106E+07	0.2757E+08
160	11	127.	0.2643E+05	0.4005E+04	0.2674E+05	0.4499E+05	0.4198E+06	0.4210E+05	0.4223E+06	0.6355E+06	-0.2597E+07	0.3255E+08
160	10	115.	0.2464E+05	0.3981E+04	0.2496E+05	0.1800E+05	0.4444E+06	0.4608E+05	0.4473E+06	0.6536E+06	-0.3137E+07	0.3784E+08
160	9	103.	0.2288E+05	0.3934E+04	0.2322E+05	-0.8986E+04	0.4673E+06	0.5002E+05	0.4705E+06	0.6443E+06	-0.3726E+07	0.4343E+08
160	8	90.	0.2270E+05	0.3175E+04	0.2292E+05	-0.3900E+05	0.4900E+06	0.5319E+05	0.4934E+06	0.6154E+06	-0.4356E+07	0.4929E+08
160	7	78.	0.2251E+05	0.2410E+04	0.2264E+05	-0.4717E+05	0.5125E+06	0.5561E+05	0.5159E+06	0.5664E+06	-0.5025E+07	0.5540E+08
160	6	66.	0.2233E+05	0.1651E+04	0.2239E+05	-0.6518E+05	0.5350E+06	0.5726E+05	0.5386E+06	0.4972E+06	-0.5716E+07	0.6185E+08
160	5	54.	0.2211E+05	0.8857E+03	0.2216E+05	-0.8935E+05	0.5571E+06	0.5814E+05	0.5607E+06	0.4078E+06	-0.6423E+07	0.6851E+08
160	4	41.	0.1892E+05	-0.1649E+04	0.1899E+05	-0.8471E+05	0.5757E+06	0.5849E+05	0.5798E+06	0.3231E+06	-0.7124E+07	0.7547E+08
160	3	29.	0.6815E+04	-0.9373E+04	0.1159E+05	-0.8161E+04	0.5829E+06	0.4711E+05	0.5912E+06	0.3150E+06	-0.7759E+07	0.8254E+08
160	2	15.	-0.5246E+04	-0.1960E+05	0.2029E+05	0.7449E+05	0.5773E+06	0.2751E+05	0.6113E+06	0.3895E+06	-0.8300E+07	0.9100E+08
160	1	0.	-0.5246E+04	-0.1960E+05	0.2029E+05	0.7449E+05	0.5721E+06	0.7913E+04	0.6319E+06	0.4640E+06	-0.8558E+07	0.9930E+08

MARKETPLACE CENTER - BOSTON (LB, LB-FT)
STRUCTURAL LOADS

MD	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
170	21	250.	0.5097E+05	0.9910E+03	0.5097E+05	-0.3792E+06	0.5896E+05	0.9910E+03	0.5896E+05	-0.3792E+06	-0.1313E+05	0.7810E+06
170	20	232.	0.5088E+05	0.1356E+04	0.5093E+05	-0.1664E+06	0.1118E+06	0.2348E+04	0.1119E+06	-0.5473E+06	-0.3358E+05	0.1827E+07
170	19	225.	0.5038E+05	0.1354E+04	0.5043E+05	-0.1534E+06	0.1647E+06	0.3704E+04	0.1648E+06	-0.7160E+06	-0.7067E+05	0.3521E+07
170	18	213.	0.4937E+05	0.1541E+04	0.3939E+05	-0.8873E+05	0.2040E+06	0.5242E+04	0.2041E+06	-0.8047E+06	-0.1255E+06	0.5778E+07
170	17	201.	0.3691E+05	0.1189E+04	0.3694E+05	-0.3491E+05	0.2409E+06	0.6732E+04	0.2410E+06	-0.8899E+06	-0.1938E+06	0.8507E+07
170	16	188.	0.3457E+05	0.1437E+04	0.3460E+05	-0.8120E+05	0.2755E+06	0.8171E+04	0.2756E+06	-0.9709E+06	-0.2901E+06	0.1167E+08
170	15	176.	0.3222E+05	0.1385E+04	0.3225E+05	-0.7733E+05	0.3077E+06	0.9554E+04	0.3079E+06	-0.1043E+07	-0.3937E+06	0.1524E+08
170	14	165.	0.3007E+05	0.1330E+04	0.3010E+05	-0.7398E+05	0.3378E+06	0.1090E+05	0.3379E+06	-0.1112E+07	-0.5241E+06	0.1920E+08
170	13	152.	0.2754E+05	0.1201E+04	0.2757E+05	-0.6990E+05	0.3653E+06	0.1217E+05	0.3655E+06	-0.1192E+07	-0.6855E+06	0.2350E+08
170	12	139.	0.2601E+05	0.1111E+04	0.2607E+05	-0.6553E+05	0.3913E+06	0.1332E+05	0.3916E+06	-0.1251E+07	-0.8213E+06	0.2814E+08
170	11	127.	0.2486E+05	0.9255E+03	0.2487E+05	-0.4773E+05	0.4160E+06	0.1421E+05	0.4163E+06	-0.1299E+07	-0.9894E+06	0.3308E+08
170	10	115.	0.2329E+05	0.7416E+03	0.2329E+05	-0.3664E+05	0.4393E+06	0.1495E+05	0.4396E+06	-0.1336E+07	-0.1168E+07	0.3832E+08
170	9	103.	0.2192E+05	0.5496E+03	0.2193E+05	-0.2633E+05	0.4612E+06	0.1550E+05	0.4615E+06	-0.1362E+07	-0.1355E+07	0.4383E+08
170	8	90.	0.2149E+05	0.1317E+03	0.2147E+05	-0.4493E+05	0.4807E+06	0.1584E+05	0.4830E+06	-0.1401E+07	-0.1546E+07	0.4962E+08
170	7	78.	0.2104E+05	-0.2888E+03	0.2105E+05	-0.5376E+05	0.5037E+06	0.1535E+05	0.5040E+06	-0.1471E+07	-0.1735E+07	0.5566E+08
170	6	66.	0.2061E+05	-0.7067E+03	0.2062E+05	-0.8249E+05	0.5241E+06	0.1464E+05	0.5246E+06	-0.1554E+07	-0.1919E+07	0.6196E+08
170	5	54.	0.2017E+05	-0.1127E+04	0.2020E+05	-0.1013E+06	0.5443E+06	0.1351E+05	0.5448E+06	-0.1655E+07	-0.2091E+07	0.6851E+08
170	4	41.	0.1668E+05	-0.3331E+04	0.1719E+05	-0.9167E+05	0.5613E+06	0.1018E+05	0.5618E+06	-0.1746E+07	-0.2236E+07	0.7526E+08
170	3	29.	0.5164E+04	-0.1076E+05	0.1194E+05	-0.8334E+05	0.5664E+06	-0.5798E+03	0.5742E+06	-0.1748E+07	-0.2295E+07	0.8218E+08
170	2	15.	-0.6758E+04	-0.2091E+05	0.2197E+05	-0.1021E+06	0.5597E+06	-0.2149E+05	0.5958E+06	-0.1643E+07	-0.2135E+07	0.9032E+08
170	1	0.	-0.6758E+04	-0.2091E+05	0.2197E+05	-0.1021E+06	0.5530E+06	-0.4240E+05	0.6180E+06	-0.1540E+07	-0.1672E+07	0.9843E+08

MD	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
190	21	250.	0.4984E+05	0.4767E+03	0.4985E+05	-0.3744E+06	0.4984E+05	0.4767E+03	0.4985E+05	-0.3244E+06	-0.6314E+04	0.6603E+06
190	20	232.	0.4340E+05	0.7733E+03	0.4342E+05	-0.1806E+06	0.9327E+05	0.1250E+04	0.9327E+05	-0.5059E+06	-0.1689E+05	0.1537E+07
190	19	225.	0.4340E+05	0.7730E+03	0.4342E+05	-0.1806E+06	0.1367E+06	0.2024E+04	0.1367E+06	-0.6855E+06	-0.3695E+05	0.2945E+07
190	18	213.	0.3779E+05	-0.1197E+04	0.3782E+05	0.1799E+06	0.1695E+06	0.3391E+03	0.1695E+06	-0.8136E+06	-0.5442E+05	0.4020E+07
190	17	201.	0.3013E+05	-0.9852E+03	0.3045E+05	-0.3158E+06	0.1999E+06	-0.1341E+03	0.1999E+06	-0.9352E+06	-0.5871E+05	0.7083E+07
190	16	188.	0.2804E+05	-0.7463E+03	0.2809E+05	-0.1087E+06	0.2280E+06	-0.8734E+03	0.2280E+06	-0.1042E+07	-0.5257E+05	0.9703E+07
190	15	176.	0.2552E+05	-0.5139E+03	0.2573E+05	-0.9838E+05	0.2537E+06	-0.1388E+04	0.2538E+06	-0.1141E+07	-0.3871E+05	0.1265E+08
190	14	165.	0.2[illegible]E+05	-0.3075E+03	0.2757E+05	-0.8730E+05	0.2773E+06	-0.1695E+04	0.2773E+06	-0.1230E+07	-0.1983E+05	0.1590E+08
190	13	152.	0.2103E+05	-0.6423E+02	0.2103E+05	-0.7341E+05	0.2983E+06	-0.1759E+04	0.2984E+06	-0.1303E+07	0.1327E+04	0.1943E+08
190	12	139.	0.1961E+05	-0.4647E+03	0.1961E+05	-0.6548E+05	0.3179E+06	-0.2226E+04	0.3180E+06	-0.1368E+07	0.2574E+05	0.2320E+08
190	11	127.	0.1850E+05	-0.9430E+03	0.1892E+05	-0.5946E+05	0.3362E+06	-0.3169E+04	0.3363E+06	-0.1407E+07	0.5876E+05	0.2721E+08
190	10	115.	0.1700E+05	-0.1417E+04	0.1706E+05	-0.1963E+05	0.3532E+06	-0.4567E+04	0.3534E+06	-0.1426E+07	0.1063E+06	0.3143E+08
190	9	103.	0.1573E+05	-0.1884E+04	0.1585E+05	-0.5406E+03	0.3689E+06	-0.6469E+04	0.3692E+06	-0.1427E+07	0.1740E+06	0.3586E+08
190	8	90.	0.1573E+05	-0.2037E+04	0.1586E+05	-0.8362E+04	0.3847E+06	-0.8507E+04	0.3850E+06	-0.1436E+07	0.2658E+06	0.4047E+08
190	7	78.	0.1573E+05	-0.2191E+04	0.1588E+05	-0.1625E+05	0.4004E+06	-0.1070E+05	0.4009E+06	-0.1453E+07	0.3834E+06	0.4528E+08
190	6	66.	0.1572E+05	-0.2345E+04	0.1589E+05	-0.2407E+05	0.4161E+06	-0.1304E+05	0.4168E+06	-0.1476E+07	0.5288E+06	0.5028E+08
190	5	54.	0.1572E+05	-0.2499E+04	0.1591E+05	-0.3196E+05	0.4318E+06	-0.1554E+05	0.4328E+06	-0.1508E+07	0.7042E+06	0.5546E+08
190	4	41.	0.1315E+05	-0.4185E+04	0.1380E+05	-0.1846E+05	0.4450E+06	-0.1973E+05	0.4465E+06	-0.1526E+07	0.9198E+06	0.6082E+08
190	3	29.	0.3115E+04	-0.1035E+05	0.1081E+05	0.5731E+05	0.4481E+06	-0.3008E+05	0.4574E+06	-0.1469E+07	0.1225E+07	0.6634E+08
190	2	15.	-0.2451E+04	-0.1904E+05	0.2041E+05	0.1511E+06	0.4408E+06	-0.4913E+05	0.4770E+06	-0.1319E+07	0.1799E+07	0.7274E+08
190	1	0.	-0.7951E+04	-0.1904E+05	0.2041E+05	0.1511E+06	0.4334E+06	-0.6815E+05	0.4982E+06	-0.1167E+07	0.2649E+07	0.7908E+08

MARKETPLACE CENTER - BOSTON (LB, LB-FT)
STRUCTURAL LOADS

JB	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
190	21	250.	0.2787E+05	0.1926E+03	0.2787E+05	-0.2349E+06	0.2787E+05	0.1926E+03	0.2787E+05	-0.2349E+06	-0.2552E+04	0.3693E+06
190	20	237.	0.2231E+05	0.6030E+02	0.2231E+05	-0.1089E+06	0.5018E+05	0.2529E+03	0.5018E+05	-0.3438E+06	-0.5282E+04	0.8476E+06
190	19	225.	0.2231E+05	0.6030E+02	0.2231E+05	-0.1089E+06	0.7248E+05	0.3132E+03	0.7248E+05	-0.4527E+06	-0.8749E+04	0.1599E+07
190	18	213.	0.1566E+05	-0.2029E+04	0.1579E+05	-0.7630E+05	0.8816E+05	-0.1716E+04	0.8826E+05	-0.5293E+06	-0.1565E+05	0.2582E+07
190	17	201.	0.1449E+05	-0.1760E+04	0.1459E+05	-0.7346E+05	0.1026E+06	-0.3476E+04	0.1029E+06	-0.6025E+06	0.3164E+05	0.3751E+07
190	16	188.	0.1332E+05	-0.1493E+04	0.1341E+05	-0.7057E+05	0.1160E+06	-0.4969E+04	0.1163E+06	-0.6732E+06	0.8336E+05	0.5090E+07
190	15	176.	0.1215E+05	-0.1225E+04	0.1221E+05	-0.6773E+05	0.1281E+06	-0.6196E+04	0.1285E+06	-0.7408E+06	0.1518E+06	0.6582E+07
190	14	165.	0.1098E+05	-0.9861E+03	0.1102E+05	-0.6510E+05	0.1392E+06	-0.7176E+04	0.1396E+06	-0.8058E+06	0.2336E+06	0.8223E+07
190	13	152.	0.9832E+04	-0.6918E+03	0.9843E+04	-0.6201E+05	0.1490E+06	-0.7857E+04	0.1494E+06	-0.8677E+06	0.3258E+06	0.9987E+07
190	12	139.	0.9495E+04	-0.9758E+03	0.9544E+04	-0.4942E+05	0.1585E+06	-0.8842E+04	0.1590E+06	-0.9173E+06	0.4281E+06	0.1187E+08
190	11	127.	0.9765E+04	-0.1325E+04	0.9853E+04	-0.3568E+05	0.1678E+06	-0.1017E+05	0.1684E+06	-0.9528E+06	0.5448E+06	0.1387E+08
190	10	115.	0.9043E+04	-0.1671E+04	0.9193E+04	-0.2205E+05	0.1768E+06	-0.1184E+05	0.1776E+06	-0.9756E+06	0.6794E+06	0.1598E+08
190	9	103.	0.8311E+04	-0.2007E+04	0.9038E+04	-0.8997E+04	0.1856E+06	-0.1385E+05	0.1866E+06	-0.9838E+06	0.8367E+06	0.1820E+08
190	8	90.	0.8507E+04	-0.1973E+04	0.8718E+04	-0.1650E+05	0.1941E+06	-0.1577E+05	0.1953E+06	-0.1001E+07	0.1018E+07	0.2053E+08
190	7	78.	0.8192E+04	-0.1839E+04	0.8398E+04	-0.2413E+05	0.2023E+06	-0.1761E+05	0.2037E+06	-0.1025E+07	0.1223E+07	0.2295E+08
190	6	66.	0.7879E+04	-0.1704E+04	0.8084E+04	-0.3164E+05	0.2102E+06	-0.1936E+05	0.2118E+06	-0.1056E+07	0.1449E+07	0.2546E+08
190	5	54.	0.7583E+04	0.1670E+04	0.7764E+04	-0.3926E+05	0.2178E+06	-0.2103E+05	0.2196E+06	-0.1098E+07	0.1696E+07	0.2810E+08
190	4	41.	0.5437E+04	-0.2827E+04	0.6128E+04	-0.3005E+05	0.2234E+06	-0.2384E+05	0.2257E+06	-0.1136E+07	0.1971E+07	0.3080E+08
190	3	29.	-0.7291E+04	-0.7614E+04	0.7893E+04	0.2807E+05	0.2212E+06	-0.3147E+05	0.2336E+06	-0.1093E+07	0.2310E+07	0.3353E+08
190	2	15.	-0.1074E+05	-0.1427E+05	0.1785E+05	0.9714E+05	0.2104E+06	-0.4574E+05	0.2514E+06	-0.1000E+07	0.2870E+07	0.3665E+08
190	1	0.	-0.1074E+05	-0.1427E+05	0.1785E+05	0.9714E+05	0.1997E+06	-0.6000E+05	0.2693E+06	-0.9033E+06	0.3636E+07	0.3963E+08

JB	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
200	21	250.	0.1788E+05	-0.1376E+04	0.1793E+05	-0.2458E+05	0.1788E+05	-0.1376E+04	0.1793E+05	-0.2458E+05	0.1824E+05	0.2369E+06
200	20	237.	0.1444E+05	-0.1477E+04	0.1452E+05	0.2515E+05	0.3232E+05	-0.2853E+04	0.3245E+05	-0.1429E+04	0.4414E+05	0.5442E+06
200	19	225.	0.1444E+05	-0.1477E+04	0.1452E+05	0.2515E+05	0.4676E+05	-0.4331E+04	0.4696E+05	0.2371E+05	0.8816E+05	0.1029E+07
200	18	213.	0.9178E+04	-0.3452E+04	0.9817E+04	-0.1964E+05	0.5597E+05	-0.7784E+04	0.5680E+05	0.4067E+04	0.1623E+06	0.1658E+07
200	17	201.	0.9115E+04	-0.2953E+04	0.9585E+04	-0.3076E+05	0.6505E+05	-0.1074E+05	0.6634E+05	-0.2669E+05	0.2758E+06	0.2399E+07
200	16	188.	0.9043E+04	-0.2456E+04	0.9373E+04	-0.4178E+05	0.7413E+05	-0.1319E+05	0.7573E+05	-0.6846E+05	0.4223E+06	0.3251E+07
200	15	176.	0.8971E+04	-0.1958E+04	0.9182E+04	-0.5280E+05	0.8311E+05	-0.1515E+05	0.8491E+05	-0.1214E+06	0.5958E+06	0.4214E+07
200	14	165.	0.8909E+04	-0.1503E+04	0.9033E+04	-0.6299E+05	0.9198E+05	-0.1665E+05	0.9394E+05	-0.1844E+06	0.7908E+06	0.5288E+07
200	13	152.	0.8832E+04	-0.9672E+03	0.8883E+04	-0.7476E+05	0.1008E+06	-0.1762E+05	0.1028E+06	-0.2593E+06	0.1001E+07	0.6469E+07
200	12	139.	0.8409E+04	-0.1241E+04	0.8501E+04	-0.6686E+05	0.1092E+06	-0.1886E+05	0.1113E+06	-0.3261E+06	0.1224E+07	0.7753E+07
200	11	127.	0.7949E+04	-0.1666E+04	0.8109E+04	-0.5647E+05	0.1172E+06	-0.2047E+05	0.1194E+06	-0.3836E+06	0.1465E+07	0.9141E+07
200	10	115.	0.7490E+04	-0.1968E+04	0.7743E+04	-0.4618E+05	0.1247E+06	-0.2243E+05	0.1272E+06	-0.4288E+06	0.1728E+07	0.1062E+08
200	9	103.	0.7031E+04	-0.2321E+04	0.7403E+04	-0.3618E+05	0.1317E+06	-0.2476E+05	0.1346E+06	-0.4649E+06	0.2017E+07	0.1219E+08
200	8	90.	0.6670E+04	-0.2338E+04	0.7067E+04	-0.3763E+05	0.1384E+06	-0.2709E+05	0.1417E+06	-0.5026E+06	0.2334E+07	0.1385E+08
200	7	78.	0.6304E+04	-0.2355E+04	0.6727E+04	-0.3909E+05	0.1448E+06	-0.2945E+05	0.1484E+06	-0.5417E+06	0.2681E+07	0.1553E+08
200	6	66.	0.5943E+04	-0.2372E+04	0.6397E+04	-0.4054E+05	0.1506E+06	-0.3183E+05	0.1548E+06	-0.5834E+06	0.3056E+07	0.1739E+08
200	5	54.	0.5577E+04	-0.2389E+04	0.6067E+04	-0.4200E+05	0.1562E+06	-0.3421E+05	0.1608E+06	-0.6242E+06	0.3460E+07	0.1927E+08
200	4	41.	0.3470E+04	-0.3565E+04	0.4974E+04	-0.3692E+05	0.1597E+06	-0.3778E+05	0.1658E+06	-0.6613E+06	0.3901E+07	0.2120E+08
200	3	29.	-0.3731E+04	-0.8130E+04	0.8945E+04	-0.1278E+05	0.1559E+06	-0.4591E+05	0.1748E+06	-0.6737E+06	0.4414E+07	0.2314E+08
200	2	15.	-0.1233E+05	-0.1464E+05	0.1914E+05	0.1146E+05	0.1438E+06	-0.6056E+05	0.1939E+06	-0.6624E+06	0.5184E+07	0.2531E+08
200	1	0.	-0.1233E+05	-0.1464E+05	0.1914E+05	0.1146E+05	0.1312E+06	-0.7516E+05	0.2131E+06	-0.6510E+06	0.6170E+07	0.2730E+08

MARKETPLACE CENTER - BOSTON (LB, LB-FT)
STRUCTURAL LOADS

WD	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
210	21	250.	0.9064E+04	-0.3056E+04	0.9564E+04	0.2741E+06	0.9064E+04	-0.3056E+04	0.9564E+04	0.2741E+06	0.4050E+05	0.1201E+06
210	20	237.	0.9114E+04	-0.3446E+04	0.7903E+04	0.2878E+06	0.1618E+05	-0.6505E+04	0.1747E+05	0.5619E+06	0.9905E+05	0.2746E+06
210	19	225.	0.9114E+04	-0.3446E+04	0.7903E+04	0.2878E+06	0.2329E+05	-0.9951E+04	0.2538E+05	0.8498E+06	0.1998E+06	0.5164E+06
210	18	213.	0.9122E+04	-0.4197E+04	0.5891E+04	0.1141E+06	0.3242E+05	-0.1415E+05	0.3536E+05	0.9636E+06	0.3474E+06	0.8269E+06
210	17	201.	0.9305E+04	-0.4095E+04	0.6624E+04	0.7635E+05	0.3263E+05	-0.1824E+05	0.3789E+05	0.1040E+07	0.5458E+06	0.1195E+07
210	16	189.	0.9258E+04	-0.3993E+04	0.7428E+04	0.3695E+05	0.3889E+05	-0.2223E+05	0.4531E+05	0.1079E+07	0.7939E+06	0.1633E+07
210	15	176.	0.9235E+04	-0.3891E+04	0.8305E+04	0.1258E+04	0.4623E+05	-0.2612E+05	0.5360E+05	0.1080E+07	0.1090E+07	0.2154E+07
210	14	165.	0.9311E+04	-0.3798E+04	0.9141E+04	-0.3307E+05	0.5453E+05	-0.2993E+05	0.6278E+05	0.1067E+07	0.1433E+07	0.2771E+07
210	13	152.	0.9461E+04	-0.3633E+04	0.1016E+05	-0.7351E+05	0.6402E+05	-0.3361E+05	0.7289E+05	0.9734E+06	0.1823E+07	0.3498E+07
210	12	139.	0.9492E+04	-0.3741E+04	0.1020E+05	-0.7704E+05	0.7351E+05	-0.3735E+05	0.8311E+05	0.8976E+06	0.2257E+07	0.4340E+07
210	11	127.	0.9329E+04	-0.3811E+04	0.1014E+05	-0.7439E+05	0.8290E+05	-0.4117E+05	0.9327E+05	0.8233E+06	0.2738E+07	0.5298E+07
210	10	115.	0.9294E+04	-0.3881E+04	0.1008E+05	-0.7274E+05	0.9219E+05	-0.4505E+05	0.1033E+06	0.7506E+06	0.3266E+07	0.6371E+07
210	9	103.	0.9183E+04	-0.3945E+04	0.9997E+04	-0.7114E+05	0.1014E+06	-0.4899E+05	0.1133E+06	0.6794E+06	0.3842E+07	0.7557E+07
210	8	90.	0.8826E+04	-0.3878E+04	0.9162E+04	-0.6153E+05	0.1097E+06	-0.5282E+05	0.1225E+06	0.6077E+06	0.4465E+07	0.8847E+07
210	7	78.	0.7454E+04	-0.3709E+04	0.8326E+04	-0.7196E+05	0.1172E+06	-0.5654E+05	0.1308E+06	0.5340E+06	0.5135E+07	0.1024E+08
210	6	66.	0.5997E+04	-0.3572E+04	0.7506E+04	-0.7238E+05	0.1238E+06	-0.6010E+05	0.1384E+06	0.4295E+06	0.5850E+07	0.1172E+08
210	5	54.	0.5726E+04	-0.3473E+04	0.6699E+04	-0.7279E+05	0.1295E+06	-0.6361E+05	0.1450E+06	0.3907E+06	0.6608E+07	0.1326E+08
210	4	41.	0.3140E+04	-0.4490E+04	0.5478E+04	-0.6732E+05	0.1326E+06	-0.6809E+05	0.1505E+06	0.3233E+06	0.7413E+07	0.1487E+08
210	3	29.	-0.4489E+04	-0.8851E+04	0.9394E+04	-0.4456E+05	0.1281E+06	-0.7692E+05	0.1604E+06	0.2789E+06	0.8300E+07	0.1647E+08
210	2	15.	-0.1370E+05	-0.1520E+05	0.2046E+05	-0.2761E+05	0.1144E+06	-0.9208E+05	0.1809E+06	0.2513E+06	0.9528E+07	0.1823E+08
210	1	0.	-0.1370E+05	-0.1520E+05	0.2046E+05	-0.2761E+05	0.1007E+06	-0.1073E+06	0.2013E+06	0.2236E+06	0.1097E+08	0.1979E+08

WD	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
220	21	250.	-0.3013E+04	-0.3732E+04	0.4797E+04	0.7939E+05	-0.3013E+04	-0.3732E+04	0.4797E+04	0.7939E+05	0.4945E+05	-0.3992E+05
220	20	237.	-0.3426E+04	-0.4079E+04	0.5293E+04	0.1538E+06	-0.6438E+04	-0.7769E+04	0.1010E+05	0.2320E+06	0.1199E+06	-0.9781E+05
220	19	225.	-0.3426E+04	-0.4039E+04	0.5298E+04	0.1536E+06	-0.9863E+04	-0.1181E+05	0.1539E+05	0.3865E+06	0.2399E+06	-0.1977E+06
220	18	213.	-0.1809E+04	-0.6603E+04	0.6851E+04	0.7490E+05	-0.1167E+05	-0.1842E+05	0.2224E+05	0.4614E+06	0.4250E+06	-0.3296E+06
220	17	201.	-0.4071E+03	-0.6695E+04	0.6706E+04	0.6722E+05	-0.1208E+05	-0.2511E+05	0.2895E+05	0.5238E+06	0.6918E+06	-0.4751E+06
220	16	189.	0.9842E+03	-0.6784E+04	0.6856E+04	0.5958E+05	-0.1110E+05	-0.3190E+05	0.3580E+05	0.5881E+06	0.1040E+07	-0.6170E+06
220	15	176.	0.2335E+04	-0.6876E+04	0.7279E+04	0.5190E+05	-0.8713E+04	-0.3877E+05	0.4308E+05	0.6402E+06	0.1474E+07	-0.7382E+06
220	14	165.	0.3662E+04	-0.6959E+04	0.7862E+04	0.4486E+05	-0.5050E+04	-0.4573E+05	0.5094E+05	0.6851E+06	0.1991E+07	-0.8228E+06
220	13	152.	0.5139E+04	-0.7052E+04	0.8744E+04	0.3660E+05	0.1162E+03	-0.5277E+05	0.5969E+05	0.7217E+06	0.2594E+07	-0.8527E+06
220	12	139.	0.5474E+04	-0.6950E+04	0.8838E+04	0.2375E+05	0.5607E+04	-0.5912E+05	0.6809E+05	0.7454E+06	0.3280E+07	-0.8176E+06
220	11	127.	0.5699E+04	-0.5556E+04	0.7955E+04	0.1529E+05	0.1130E+05	-0.6469E+05	0.7604E+05	0.7517E+06	0.4038E+07	-0.7145E+06
220	10	115.	0.5884E+04	-0.4769E+04	0.7578E+04	-0.3071E+01	0.1719E+05	-0.6944E+05	0.8362E+05	0.7528E+06	0.4860E+07	-0.5396E+06
220	9	103.	0.6046E+04	-0.3992E+04	0.7249E+04	-0.1646E+05	0.2323E+05	-0.7346E+05	0.9084E+05	0.7361E+06	0.5736E+07	-0.2922E+06
220	8	90.	0.5109E+04	-0.3791E+04	0.6361E+04	-0.2728E+05	0.2834E+05	-0.7722E+05	0.9724E+05	0.7088E+06	0.6660E+07	0.2367E+05
220	7	78.	0.4162E+04	-0.3588E+04	0.5494E+04	-0.3820E+05	0.3250E+05	-0.8084E+05	0.1027E+06	0.6706E+06	0.7624E+07	0.3964E+06
220	6	66.	0.3223E+04	-0.3387E+04	0.4675E+04	-0.4903E+05	0.3573E+05	-0.8424E+05	0.1074E+06	0.6216E+06	0.8636E+07	0.8146E+06
220	5	54.	0.2275E+04	-0.3184E+04	0.3913E+04	-0.5994E+05	0.3800E+05	-0.8739E+05	0.1113E+06	0.5613E+06	0.9688E+07	0.1266E+07
220	4	41.	-0.2332E+03	-0.4077E+04	0.4084E+04	-0.5778E+05	0.3777E+05	-0.9146E+05	0.1154E+06	0.5032E+06	0.1079E+08	0.1730E+07
220	3	29.	-0.7336E+04	-0.8166E+04	0.1098E+05	-0.1779E+05	0.3043E+05	-0.9967E+05	0.1264E+06	0.4840E+06	0.1195E+08	0.2148E+07
220	2	15.	-0.1650E+05	-0.1417E+05	0.2174E+05	0.2292E+05	0.1394E+05	-0.1138E+06	0.1481E+06	0.5039E+06	0.1350E+08	0.2469E+07
220	1	0.	-0.1650E+05	-0.1417E+05	0.2174E+05	0.2292E+05	-0.2559E+04	-0.1280E+06	0.1699E+06	0.5319E+06	0.1525E+08	0.2852E+07

MARKETPLACE CENTER - BOSTON (LB, LB-FT)
STRUCTURAL LOADS

UD	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
230	21	250.	-0.4160E+04	-0.2598E+04	0.4905E+04	-0.3488E+05	-0.4160E+04	-0.2598E+04	0.4905E+04	-0.3488E+05	0.3442E+05	-0.5515E+05
230	20	237.	-0.4331E+04	-0.2703E+04	0.5105E+04	0.6453E+05	-0.8491E+04	-0.5303E+04	0.1001E+05	0.2966E+05	0.8280E+05	-0.1326E+06
230	19	225.	-0.4331E+04	-0.2703E+04	0.5105E+04	0.6453E+05	-0.1282E+05	-0.8006E+04	0.1511E+05	0.9426E+05	0.1643E+06	-0.2631E+06
230	18	213.	-0.3287E+04	-0.5277E+04	0.6214E+04	0.1364E+06	-0.1611E+05	-0.1328E+05	0.2133E+05	0.2366E+06	0.2947E+06	-0.4403E+06
230	17	201.	-0.2571E+04	-0.4834E+04	0.5473E+04	0.1259E+06	-0.1869E+05	-0.1811E+05	0.2680E+05	0.3564E+06	0.4870E+06	-0.6536E+06
230	16	188.	-0.1861E+04	-0.4394E+04	0.4772E+04	0.1155E+06	-0.2054E+05	-0.2251E+05	0.3158E+05	0.4720E+06	0.7356E+06	-0.8935E+06
230	15	176.	-0.1145E+04	-0.3950E+04	0.4113E+04	0.1050E+06	-0.2169E+05	-0.2646E+05	0.3569E+05	0.5773E+06	0.1036E+07	-0.1152E+07
230	14	165.	-0.4927E+03	-0.3547E+04	0.3581E+04	0.9538E+05	-0.2218E+05	-0.3001E+05	0.3927E+05	0.6722E+06	0.1381E+07	-0.1421E+07
230	13	152.	0.2757E+03	-0.3071E+04	0.3084E+04	0.8414E+05	-0.2190E+05	-0.3308E+05	0.4236E+05	0.7568E+06	0.1768E+07	-0.1691E+07
230	12	139.	0.2701E+03	-0.2355E+04	0.2371E+04	0.7419E+05	-0.2163E+05	-0.3543E+05	0.4473E+05	0.8326E+06	0.2188E+07	-0.1958E+07
230	11	127.	0.1789E+03	-0.1607E+04	0.1617E+04	0.6861E+05	-0.2145E+05	-0.3704E+05	0.4635E+05	0.9012E+06	0.2631E+07	-0.2221E+07
230	10	115.	0.8832E+02	-0.8651E+03	0.8692E+03	0.6403E+05	-0.2137E+05	-0.3791E+05	0.4721E+05	0.9626E+06	0.3091E+07	-0.2484E+07
230	9	103.	0.2171E+01	-0.1398E+03	0.1398E+03	0.5288E+05	-0.2136E+05	-0.3805E+05	0.4735E+05	0.1015E+07	0.3556E+07	-0.2745E+07
230	8	90.	0.6938E+02	-0.1125E+03	0.1322E+03	0.2081E+05	-0.2129E+05	-0.3816E+05	0.4749E+05	0.1044E+07	0.4022E+07	-0.3006E+07
230	7	78.	0.1369E+03	-0.8507E+02	0.1612E+03	0.4513E+04	-0.2116E+05	-0.3824E+05	0.4765E+05	0.1049E+07	0.4490E+07	-0.3266E+07
230	6	66.	0.2019E+03	-0.5770E+02	0.2120E+03	-0.1957E+05	-0.2095E+05	-0.3830E+05	0.4786E+05	0.1029E+07	0.4959E+07	-0.3524E+07
230	5	54.	0.2717E+03	-0.3031E+02	0.2734E+03	-0.4386E+05	-0.2068E+05	-0.3833E+05	0.4813E+05	0.9853E+06	0.5427E+07	-0.3780E+07
230	4	41.	-0.1340E+04	-0.1124E+04	0.1748E+04	-0.4936E+05	-0.2202E+05	-0.3945E+05	0.4988E+05	0.9358E+06	0.5907E+07	-0.4041E+07
230	3	29.	-0.7863E+04	-0.5484E+04	0.9585E+04	-0.3821E+05	-0.2988E+05	-0.4494E+05	0.5948E+05	0.9353E+06	0.6423E+07	-0.4359E+07
230	2	15.	-0.1647E+05	-0.1129E+05	0.1997E+05	0.5234E+05	-0.4635E+05	-0.5623E+05	0.7944E+05	0.9889E+06	0.7155E+07	-0.4912E+07
230	1	0.	-0.1647E+05	-0.1129E+05	0.1997E+05	0.5334E+05	-0.6283E+05	-0.6753E+05	0.9941E+05	0.1042E+07	0.8053E+07	-0.5705E+07

UD	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
240	21	250.	-0.3322E+04	-0.8047E+02	0.3323E+04	-0.4333E+05	-0.3322E+04	-0.8047E+02	0.3323E+04	-0.4333E+05	0.1066E+04	-0.4402E+05
240	20	237.	-0.2793E+04	-0.1306E+03	0.2797E+04	-0.1914E+05	-0.6113E+04	-0.2111E+03	0.6118E+04	-0.6247E+05	0.2852E+04	-0.1018E+06
240	19	225.	-0.2793E+04	-0.1306E+03	0.2797E+04	-0.1914E+05	-0.8909E+04	-0.3417E+03	0.8914E+04	-0.8161E+05	0.6237E+04	-0.1939E+06
240	18	213.	-0.2211E+04	-0.9208E+03	0.2395E+04	0.3295E+05	-0.1112E+05	-0.1263E+04	0.1131E+05	-0.4866E+05	0.1606E+05	-0.3165E+06
240	17	201.	-0.2201E+04	-0.6902E+03	0.2307E+04	0.3546E+05	-0.1332E+05	-0.1953E+04	0.1362E+05	-0.1320E+05	0.3576E+05	-0.4662E+06
240	16	188.	-0.2191E+04	-0.4615E+03	0.2239E+04	0.3794E+05	-0.1551E+05	-0.2414E+04	0.1586E+05	0.2474E+05	0.6252E+05	-0.6428E+06
240	15	176.	-0.2181E+04	-0.2308E+03	0.2193E+04	0.4043E+05	-0.1769E+05	-0.2845E+04	0.1805E+05	0.6515E+05	0.9347E+05	-0.8460E+06
240	14	165.	-0.2172E+04	-0.2080E+02	0.2172E+04	0.4291E+05	-0.1987E+05	-0.2666E+04	0.2022E+05	0.1079E+06	0.1260E+06	-0.1076E+07
240	13	152.	-0.2161E+04	0.2267E+03	0.2173E+04	0.4540E+05	-0.2203E+05	-0.2439E+04	0.2239E+05	0.1533E+06	0.1573E+06	-0.1333E+07
240	12	139.	-0.1986E+04	0.3625E+03	0.2008E+04	0.3689E+05	-0.2401E+05	-0.2137E+04	0.2441E+05	0.1922E+06	0.1854E+06	-0.1615E+07
240	11	127.	-0.1790E+04	0.3598E+03	0.1826E+04	0.3132E+05	-0.2580E+05	-0.1777E+04	0.2623E+05	0.2335E+06	0.2093E+06	-0.1920E+07
240	10	115.	-0.1596E+04	0.4167E+03	0.1649E+04	0.2381E+05	-0.2740E+05	-0.1360E+04	0.2788E+05	0.2473E+06	0.2265E+06	-0.2246E+07
240	9	103.	-0.1404E+04	0.4805E+03	0.1484E+04	0.1627E+05	-0.2880E+05	-0.8795E+03	0.2936E+05	0.2636E+06	0.2423E+06	-0.2590E+07
240	8	90.	-0.1318E+04	0.7381E+03	0.1508E+04	0.9554E+04	-0.3012E+05	-0.1434E+03	0.3087E+05	0.2733E+06	0.2485E+06	-0.2951E+07
240	7	78.	-0.1227E+04	0.9941E+03	0.1579E+04	0.2785E+04	-0.3134E+05	0.6507E+03	0.3245E+05	0.2759E+06	0.2442E+06	-0.3327E+07
240	6	66.	-0.1145E+04	0.1250E+04	0.1691E+04	-0.3929E+04	-0.3248E+05	0.2101E+04	0.3414E+05	0.2720E+06	0.2261E+06	-0.3718E+07
240	5	54.	-0.1050E+04	0.1500E+04	0.1838E+04	-0.1070E+05	-0.3354E+05	0.3609E+04	0.3598E+05	0.2613E+06	0.1911E+06	-0.4123E+07
240	4	41.	-0.2453E+04	0.5721E+03	0.2520E+04	-0.3132E+04	-0.3599E+05	0.4181E+04	0.3850E+05	0.2581E+06	0.1434E+06	-0.4548E+07
240	3	29.	-0.8218E+04	-0.3845E+04	0.9074E+04	0.4613E+05	-0.4421E+05	0.3363E+03	0.4757E+05	0.3043E+06	0.1157E+06	-0.5039E+07
240	2	15.	-0.1607E+05	-0.9409E+04	0.1862E+05	0.1088E+06	-0.6025E+05	-0.9069E+04	0.6619E+05	0.4131E+06	0.1791E+06	-0.5798E+07
240	1	0.	-0.1607E+05	-0.9409E+04	0.1862E+05	0.1088E+06	-0.7635E+05	-0.1848E+05	0.8481E+05	0.5221E+06	0.3788E+06	-0.6789E+07

MARKETPLACE CENTER - BOSTON (LB, LB-FT)
STRUCTURAL LOADS

WD	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
250	21	250.	-0.1653E+04	0.5083E+03	0.1730E+04	-0.5644E+05	-0.1653E+04	0.5083E+03	0.1730E+04	-0.5644E+05	-0.6737E+04	-0.2191E+05
250	20	237.	-0.1396E+04	0.5726E+03	0.1509E+04	-0.5226E+05	-0.3050E+04	0.1081E+04	0.3239E+04	-0.1087E+06	-0.1647E+05	-0.5071E+05
250	19	225.	-0.1396E+04	0.5726E+03	0.1509E+04	-0.5226E+05	-0.4447E+04	0.1654E+04	0.4749E+04	-0.1607E+06	-0.3322E+05	-0.9862E+05
250	18	213.	-0.1290E+04	0.7356E+03	0.1572E+04	-0.1483E+05	-0.5834E+04	0.2389E+04	0.6319E+04	-0.1758E+06	-0.5798E+05	-0.1596E+06
250	17	201.	-0.1484E+04	0.8476E+03	0.1709E+04	-0.1386E+05	-0.7320E+04	0.3237E+04	0.8032E+04	-0.1898E+06	-0.9244E+05	-0.2402E+06
250	16	188.	-0.1578E+04	0.9590E+03	0.1846E+04	-0.1290E+05	-0.8899E+04	0.4196E+04	0.9879E+04	-0.2025E+06	-0.1380E+06	-0.3395E+06
250	15	176.	-0.1672E+04	0.1071E+04	0.1986E+04	-0.1173E+05	-0.1057E+05	0.5267E+04	0.1186E+05	-0.2144E+06	-0.1959E+06	-0.4588E+06
250	14	165.	-0.1758E+04	0.1174E+04	0.2113E+04	-0.1105E+05	-0.1233E+05	0.6443E+04	0.1397E+05	-0.2255E+06	-0.2676E+06	-0.5989E+06
250	13	152.	-0.1859E+04	0.1294E+04	0.2265E+04	-0.1001E+05	-0.1419E+05	0.7738E+04	0.1624E+05	-0.2355E+06	-0.3545E+06	-0.7614E+06
250	12	139.	-0.2041E+04	0.1372E+04	0.2459E+04	-0.2123E+04	-0.1623E+05	0.9105E+04	0.1870E+05	-0.2377E+06	-0.4577E+06	-0.9476E+06
250	11	127.	-0.2234E+04	0.1444E+04	0.2660E+04	0.6570E+04	-0.1846E+05	0.1055E+05	0.2136E+05	-0.2311E+06	-0.5783E+06	-0.1160E+07
250	10	115.	-0.2426E+04	0.1517E+04	0.2861E+04	0.1522E+05	-0.2089E+05	0.1207E+05	0.2422E+05	-0.2158E+06	-0.7165E+06	-0.1401E+07
250	9	103.	-0.2612E+04	0.1587E+04	0.3057E+04	0.2330E+05	-0.2350E+05	0.1365E+05	0.2728E+05	-0.1926E+06	-0.8744E+06	-0.1673E+07
250	8	90.	-0.2617E+04	0.1577E+04	0.3052E+04	0.1258E+05	-0.2612E+05	0.1523E+05	0.3033E+05	-0.1800E+06	-0.1051E+07	-0.1977E+07
250	7	78.	-0.2621E+04	0.1557E+04	0.3049E+04	0.1779E+04	-0.2874E+05	0.1679E+05	0.3338E+05	-0.1787E+06	-0.1247E+07	-0.2313E+07
250	6	66.	-0.2625E+04	0.1543E+04	0.3045E+04	-0.8935E+04	-0.3136E+05	0.1833E+05	0.3643E+05	-0.1871E+06	-0.1462E+07	-0.2681E+07
250	5	54.	-0.2629E+04	0.1526E+04	0.3041E+04	-0.1974E+05	-0.3399E+05	0.1986E+05	0.3947E+05	-0.2069E+06	-0.1696E+07	-0.3081E+07
250	4	41.	-0.3812E+04	0.5605E+03	0.3855E+04	-0.1609E+05	-0.3780E+05	0.2043E+05	0.4332E+05	-0.2230E+06	-0.1943E+07	-0.3521E+07
250	3	29.	-0.3440E+04	-0.3154E+04	0.9012E+04	0.2948E+05	-0.4625E+05	0.1727E+05	0.5231E+05	-0.1935E+06	-0.2174E+07	-0.4036E+07
250	2	15.	0.1508E+05	-0.7826E+04	0.1699E+05	0.8496E+05	-0.6134E+05	0.9445E+04	0.6933E+05	-0.1085E+06	-0.2367E+07	-0.4816E+07
250	1	0.	0.1508E+05	-0.7826E+04	0.1699E+05	0.8496E+05	-0.7640E+05	0.1620E+04	0.8630E+05	-0.2351E+05	-0.2448E+07	-0.5014E+07

WD	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
260	21	250.	-0.1167E+04	-0.1445E+04	0.1858E+04	-0.5031E+05	-0.1167E+04	-0.1445E+04	0.1858E+04	-0.5031E+05	0.1915E+05	-0.1547E+05
260	20	237.	-0.6836E+03	-0.1337E+04	0.1501E+04	-0.3102E+05	-0.1850E+04	-0.2782E+04	0.3358E+04	-0.8135E+05	0.4504E+05	-0.3395E+05
260	19	225.	-0.6836E+03	-0.1337E+04	0.1501E+04	-0.3102E+05	-0.2533E+04	-0.4118E+04	0.4859E+04	-0.1124E+06	0.8728E+05	-0.6032E+05
260	18	213.	-0.2183E+02	-0.1638E+04	0.1638E+04	-0.4572E+05	-0.2556E+04	-0.5757E+04	0.6500E+04	-0.1581E+06	0.1478E+06	-0.9198E+05
260	17	201.	0.2237E+01	-0.1490E+04	0.1490E+04	-0.3819E+05	-0.2553E+04	-0.7248E+04	0.7986E+04	-0.1963E+06	0.2274E+06	-0.1232E+06
260	16	188.	0.2611E+02	-0.1343E+04	0.1343E+04	-0.3072E+05	-0.2527E+04	-0.8589E+04	0.9332E+04	-0.2270E+06	0.3244E+06	-0.1544E+06
260	15	176.	0.5018E+02	-0.1194E+04	0.1195E+04	-0.2319E+05	-0.2477E+04	-0.9786E+04	0.1053E+05	-0.2502E+06	0.4369E+06	-0.1850E+06
260	14	165.	0.7212E+02	-0.1059E+04	0.1062E+04	-0.1633E+05	-0.2405E+04	-0.1084E+05	0.1159E+05	-0.2665E+06	0.5633E+06	-0.2149E+06
260	13	152.	0.9791E+02	-0.9002E+03	0.9053E+03	-0.8444E+04	-0.2307E+04	-0.1174E+05	0.1249E+05	-0.2747E+06	0.7016E+06	-0.2438E+06
260	12	139.	-0.3703E+02	-0.8650E+03	0.8641E+03	0.2338E+04	-0.2344E+04	-0.1261E+05	0.1334E+05	-0.2724E+06	0.8507E+06	-0.2723E+06
260	11	127.	-0.1909E+03	-0.8398E+03	0.8610E+03	0.1328E+05	-0.2535E+04	-0.1344E+05	0.1422E+05	-0.2591E+06	0.1010E+07	-0.3021E+06
260	10	115.	-0.3135E+03	-0.8156E+03	0.8657E+03	0.2414E+05	-0.2878E+04	-0.1426E+05	0.1510E+05	-0.2350E+06	0.1180E+07	-0.3353E+06
260	9	103.	-0.4982E+03	-0.7955E+03	0.9389E+03	0.3465E+05	-0.3376E+04	-0.1506E+05	0.1604E+05	-0.2004E+06	0.1360E+07	-0.3736E+06
260	8	90.	-0.6784E+03	-0.8522E+03	0.1090E+04	0.3194E+05	-0.4055E+04	-0.1591E+05	0.1713E+05	-0.1684E+06	0.1549E+07	-0.4191E+06
260	7	78.	-0.8605E+03	-0.9095E+03	0.1252E+04	0.2921E+05	-0.4915E+04	-0.1682E+05	0.1839E+05	-0.1392E+06	0.1750E+07	-0.4741E+06
260	6	66.	-0.1040E+04	-0.9657E+03	0.1420E+04	0.2650E+05	-0.5958E+04	-0.1779E+05	0.1980E+05	-0.1127E+06	0.1962E+07	-0.5406E+06
260	5	54.	-0.1223E+04	-0.1023E+04	0.1594E+04	0.2377E+05	-0.7181E+04	-0.1881E+05	0.2140E+05	-0.8894E+05	0.2186E+07	-0.6211E+06
260	4	41.	-0.2510E+04	-0.1786E+04	0.3081E+04	0.3057E+05	-0.9688E+04	-0.2059E+05	0.2448E+05	-0.5834E+05	0.2427E+07	-0.7243E+06
260	3	29.	-0.2763E+04	-0.4616E+04	0.8419E+04	0.6510E+05	-0.1672E+05	-0.2521E+05	0.3290E+05	0.6748E+04	0.2708E+07	-0.8863E+06
260	2	15.	-0.1341E+05	-0.8574E+04	0.1592E+05	0.1150E+06	-0.3003E+05	-0.3378E+05	0.4873E+05	0.1218E+06	0.2145E+07	-0.1225E+07
260	1	0.	-0.1331E+05	-0.8574E+04	0.1583E+05	0.1150E+06	-0.4334E+05	-0.4236E+05	0.6453E+05	0.2368E+06	0.3687E+07	-0.1757E+07

MARKETPLACE CENTER - BOSTON (LB, LB-FT)
STRUCTURAL LOADS

WD	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
270	21	250.	-0.9136E+04	-0.3175E+04	0.9672E+04	0.2769E+05	-0.9136E+04	-0.3175E+04	0.9672E+04	0.2769E+05	0.4206E+05	-0.1211E+06
270	20	237.	-0.8299E+04	-0.3386E+04	0.7150E+04	-0.9136E+04	-0.1543E+05	-0.6562E+04	0.1682E+05	0.1855E+05	0.1017E+06	-0.2716E+06
270	19	225.	-0.8299E+04	-0.3386E+04	0.7150E+04	-0.9136E+04	-0.2173E+05	-0.9946E+04	0.2398E+05	0.9415E+04	0.2028E+06	-0.4992E+06
270	18	213.	-0.8263E+04	-0.5391E+04	0.9880E+04	0.1015E+05	-0.2802E+05	-0.1534E+05	0.3225E+05	0.1956E+05	0.3576E+06	-0.8037E+06
270	17	201.	-0.6541E+04	-0.5169E+04	0.8336E+04	0.1833E+05	-0.3456E+05	-0.2051E+05	0.4059E+05	0.3709E+05	0.5773E+06	-0.1187E+07
270	16	188.	-0.6799E+04	-0.4944E+04	0.8403E+04	0.2648E+05	-0.4135E+05	-0.2545E+05	0.4899E+05	0.6433E+05	0.8589E+06	-0.1652E+07
270	15	176.	-0.7052E+04	-0.4720E+04	0.8486E+04	0.3463E+05	-0.4841E+05	-0.3017E+05	0.5747E+05	0.9894E+05	0.1199E+07	-0.2202E+07
270	14	165.	-0.7289E+04	-0.4515E+04	0.8574E+04	0.4268E+05	-0.5571E+05	-0.3469E+05	0.6608E+05	0.1410E+06	0.1597E+07	-0.2840E+07
270	13	152.	-0.7568E+04	-0.4274E+04	0.8693E+04	0.5086E+05	-0.6325E+05	-0.3896E+05	0.7475E+05	0.1919E+06	0.2047E+07	-0.3568E+07
270	12	139.	-0.8061E+04	-0.4054E+04	0.8986E+04	0.6809E+05	-0.7129E+05	-0.4305E+05	0.8372E+05	0.2600E+06	0.2550E+07	-0.4393E+07
270	11	127.	-0.8455E+04	-0.3920E+04	0.9322E+04	0.8646E+05	-0.7970E+05	-0.4697E+05	0.9306E+05	0.3465E+06	0.3101E+07	-0.5319E+07
270	10	115.	-0.8904E+04	-0.3748E+04	0.9663E+04	0.1046E+06	-0.8863E+05	-0.5072E+05	0.1027E+06	0.4511E+06	0.3700E+07	-0.6350E+07
270	9	103.	-0.9353E+04	-0.3585E+04	0.1001E+05	0.1221E+06	-0.9796E+05	-0.5432E+05	0.1127E+06	0.5731E+06	0.4343E+07	-0.7490E+07
270	8	90.	-0.9589E+04	-0.4048E+04	0.1031E+05	0.1398E+06	-0.1076E+06	-0.5814E+05	0.1230E+06	0.6861E+06	0.5032E+07	-0.8749E+07
270	7	78.	-0.9736E+04	-0.4113E+04	0.1062E+05	0.1035E+06	-0.1174E+06	-0.6226E+05	0.1337E+06	0.7973E+06	0.5767E+07	-0.1013E+08
270	6	66.	-0.1006E+05	-0.4274E+04	0.1092E+05	0.9430E+05	-0.1273E+06	-0.6665E+05	0.1446E+06	0.8837E+06	0.6557E+07	-0.1163E+08
270	5	54.	-0.1022E+05	-0.4638E+04	0.1122E+05	0.8501E+05	-0.1375E+06	-0.7129E+05	0.1558E+06	0.9688E+06	0.7403E+07	-0.1325E+08
270	4	41.	-0.1080E+05	-0.5179E+04	0.1197E+05	0.8599E+05	-0.1484E+06	-0.7645E+05	0.1678E+06	0.1055E+07	0.8311E+07	-0.1500E+08
270	3	29.	-0.1242E+05	-0.6546E+04	0.1404E+05	0.1169E+06	-0.1603E+06	-0.8306E+05	0.1818E+06	0.1172E+07	0.9286E+07	-0.1689E+08
270	2	15.	-0.1650E+05	-0.9255E+04	0.1891E+05	0.1722E+06	-0.1773E+06	-0.9224E+05	0.2007E+06	0.1344E+07	0.1055E+08	-0.1934E+08
270	1	0.	-0.1650E+05	-0.9255E+04	0.1891E+05	0.1722E+06	-0.1938E+06	-0.1015E+06	0.2197E+06	0.1516E+07	0.1196E+08	-0.2203E+08

WD	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
280	21	250.	-0.3548E+05	-0.1202E+05	0.3746E+05	-0.5293E+05	-0.3548E+05	-0.1202E+05	0.3746E+05	-0.5293E+05	0.1593E+06	-0.4701E+06
280	20	237.	-0.3229E+05	-0.1270E+05	0.2920E+05	-0.7279E+05	-0.6175E+05	-0.2472E+05	0.6665E+05	-0.1257E+06	0.3844E+06	-0.1066E+07
280	19	225.	-0.3229E+05	-0.1270E+05	0.2920E+05	-0.7279E+05	-0.8806E+05	-0.3742E+05	0.9585E+05	-0.1985E+06	0.7650E+06	-0.1984E+07
280	18	213.	-0.3478E+05	-0.1981E+05	0.3173E+05	-0.5463E+05	-0.1129E+06	-0.5721E+05	0.1276E+06	-0.2531E+06	0.1345E+07	-0.3214E+07
280	17	201.	-0.2469E+05	-0.1915E+05	0.3125E+05	-0.4429E+05	-0.1375E+06	-0.7640E+05	0.1583E+06	-0.2974E+06	0.2163E+07	-0.4743E+07
280	16	188.	-0.2461E+05	-0.1850E+05	0.3078E+05	-0.3405E+05	-0.1621E+06	-0.9487E+05	0.1896E+06	-0.3315E+06	0.3212E+07	-0.6582E+07
280	15	176.	-0.2451E+05	-0.1784E+05	0.3032E+05	-0.2372E+05	-0.1866E+06	-0.1127E+06	0.2200E+06	-0.3552E+06	0.4484E+07	-0.8718E+07
280	14	165.	-0.2443E+05	-0.1724E+05	0.2990E+05	-0.1432E+05	-0.2111E+06	-0.1299E+06	0.2498E+06	-0.3695E+06	0.5969E+07	-0.1116E+08
280	13	152.	-0.2433E+05	-0.1653E+05	0.2942E+05	-0.3236E+04	-0.2354E+06	-0.1465E+06	0.2792E+06	-0.3728E+06	0.7666E+07	-0.1389E+08
280	12	139.	-0.2416E+05	-0.1621E+05	0.2909E+05	0.3646E+05	-0.2596E+06	-0.1627E+06	0.3083E+06	-0.3423E+06	0.9559E+07	-0.1693E+08
280	11	127.	-0.2357E+05	-0.1595E+05	0.2879E+05	0.6695E+05	-0.2836E+06	-0.1786E+06	0.3371E+06	-0.2754E+06	0.1165E+08	-0.2025E+08
280	10	115.	-0.2370E+05	-0.1568E+05	0.2849E+05	0.1031E+06	-0.3074E+06	-0.1943E+06	0.3656E+06	-0.1722E+06	0.1393E+08	-0.2387E+08
280	9	103.	-0.2366E+05	-0.1544E+05	0.2825E+05	0.1384E+06	-0.3310E+06	-0.2098E+06	0.3939E+06	-0.3390E+05	0.1641E+08	-0.2778E+08
280	8	90.	-0.2540E+05	-0.1635E+05	0.3020E+05	0.1358E+06	-0.3564E+06	-0.2261E+06	0.4241E+06	0.1019E+06	0.1908E+08	-0.3199E+08
280	7	78.	-0.2715E+05	-0.1727E+05	0.3217E+05	0.1332E+06	-0.3835E+06	-0.2434E+06	0.4563E+06	0.2351E+06	0.2196E+08	-0.3652E+08
280	6	66.	-0.2889E+05	-0.1817E+05	0.3413E+05	0.1307E+06	-0.4124E+06	-0.2615E+06	0.4904E+06	0.3658E+06	0.2505E+08	-0.4140E+08
280	5	54.	-0.3064E+05	-0.1909E+05	0.3610E+05	0.1281E+06	-0.4431E+06	-0.2806E+06	0.5267E+06	0.4939E+06	0.2837E+08	-0.4664E+08
280	4	41.	-0.3195E+05	-0.1987E+06	-0.4750E+06	-0.2998E+06	0.5638E+06	0.6629E+06	0.3192E+08	-0.5226E+08		
280	3	29.	-0.3200E+05	-0.1680E+05	0.3614E+05	0.3354E+06	-0.5070E+06	-0.3166E+06	0.6000E+06	0.9982E+06	0.3570E+08	-0.5829E+08
280	2	15.	-0.3794E+05	-0.1720E+05	0.4169E+05	0.5803E+06	-0.5448E+06	-0.3339E+06	0.6417E+06	0.1578E+07	0.4041E+08	-0.6593E+08
280	1	0.	-0.3794E+05	-0.1720E+05	0.4169E+05	0.5803E+06	-0.5829E+06	-0.3511E+06	0.6830E+06	0.2158E+07	0.4538E+08	-0.7408E+08

MARKETPLACE CENTER - BOSTON (LB, LB-FT)
STRUCTURAL LOADS

DIR	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
290	21	259.	-0.3672E+05	-0.1371E+05	0.3920E+05	-0.3570E+06	-0.3672E+05	-0.1371E+05	0.3920E+05	-0.3570E+06	0.1817E+06	-0.4866E+06
290	20	237.	-0.3071E+05	-0.1494E+05	0.3416E+05	-0.1491E+06	-0.6742E+05	-0.2866E+05	0.7336E+05	-0.5061E+06	0.4412E+06	-0.1125E+07
290	19	225.	-0.3071E+05	-0.1494E+05	0.3416E+05	-0.1491E+06	-0.9817E+05	-0.4360E+05	0.1075E+06	-0.6551E+06	0.8837E+06	-0.2139E+07
290	18	214.	-0.2864E+05	-0.2296E+05	0.3726E+05	-0.2945E+05	-0.1267E+06	-0.6758E+05	0.1448E+06	-0.7449E+06	0.1565E+07	-0.3516E+07
290	17	201.	-0.2834E+05	-0.2371E+05	0.3719E+05	-0.7939E+05	-0.1553E+06	-0.9126E+05	0.1820E+06	-0.8244E+06	0.2538E+07	-0.5241E+07
290	16	188.	-0.2877E+05	-0.2346E+05	0.3713E+05	-0.6944E+05	-0.1841E+06	-0.1147E+06	0.2191E+06	-0.8935E+06	0.3799E+07	-0.7325E+07
290	15	176.	-0.2899E+05	-0.2320E+05	0.3706E+05	-0.5943E+05	-0.2130E+06	-0.1379E+06	0.2562E+06	-0.9528E+06	0.5344E+07	-0.9755E+07
290	14	165.	-0.2901E+05	-0.2298E+05	0.3700E+05	-0.5028E+05	-0.2429E+06	-0.1609E+06	0.2932E+06	-0.1003E+07	0.7176E+07	-0.1254E+08
290	13	152.	-0.2914E+05	-0.2270E+05	0.3694E+05	-0.3950E+05	-0.2712E+06	-0.1838E+06	0.3301E+06	-0.1043E+07	0.9286E+07	-0.1569E+08
290	12	137.	-0.2889E+05	-0.2273E+05	0.3679E+05	0.2311E+04	-0.3001E+06	-0.2064E+06	0.3669E+06	-0.1040E+07	0.1167E+08	-0.1919E+08
290	11	127.	-0.2860E+05	-0.2289E+05	0.3664E+05	0.4790E+05	-0.3287E+06	-0.2293E+06	0.4035E+06	-0.9925E+06	0.1435E+08	-0.2303E+08
290	10	115.	-0.2839E+05	-0.2301E+05	0.3648E+05	0.9311E+05	-0.3570E+06	-0.2523E+06	0.4400E+06	-0.8997E+06	0.1729E+08	-0.2723E+08
290	9	103.	-0.2809E+05	-0.2313E+05	0.3638E+05	0.1370E+06	-0.3850E+06	-0.2754E+06	0.4764E+06	-0.7629E+06	0.2053E+08	-0.3178E+08
290	8	90.	-0.2955E+05	-0.2346E+05	0.3773E+05	0.1299E+06	-0.4146E+06	-0.2989E+06	0.5141E+06	-0.6325E+06	0.2404E+08	-0.3668E+08
290	7	78.	-0.3103E+05	-0.2378E+05	0.3910E+05	0.1228E+06	-0.4457E+06	-0.3227E+06	0.5530E+06	-0.5076E+06	0.2785E+08	-0.4194E+08
290	6	66.	-0.3251E+05	-0.2411E+05	0.4047E+05	0.1157E+06	-0.4782E+06	-0.3468E+06	0.5938E+06	-0.3941E+06	0.3195E+08	-0.4760E+08
290	5	54.	-0.3400E+05	-0.2444E+05	0.4186E+05	0.1085E+06	-0.5122E+06	-0.3712E+06	0.6355E+06	-0.2856E+06	0.3635E+08	-0.5365E+08
290	4	41.	-0.3538E+05	-0.2467E+05	0.4277E+05	0.1448E+06	-0.5473E+06	-0.3952E+06	0.6784E+06	-0.1408E+06	0.4104E+08	-0.6015E+08
290	3	29.	-0.3655E+05	-0.2144E+05	0.4237E+05	0.3077E+06	-0.5840E+06	-0.4167E+06	0.7207E+06	0.1669E+06	0.4602E+08	-0.6711E+08
290	2	15.	-0.4454E+05	-0.2255E+05	0.4993E+05	0.5422E+06	-0.6288E+06	-0.4392E+06	0.7707E+06	0.7103E+06	0.5221E+08	-0.7588E+08
290	1	0.	-0.4454E+05	-0.2255E+05	0.4993E+05	0.5432E+06	-0.6732E+06	-0.4618E+06	0.8207E+06	0.1254E+07	0.5876E+08	-0.8532E+08

DIR	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
300	21	259.	-0.2813E+05	-0.1263E+05	0.4017E+05	-0.1566E+06	-0.3813E+05	-0.1263E+05	0.4017E+05	-0.1566E+06	0.1673E+06	-0.5052E+06
300	20	237.	-0.3452E+05	-0.1343E+05	0.3703E+05	0.1195E+06	-0.7263E+05	-0.2606E+05	0.7722E+05	-0.3704E+05	0.4043E+06	-0.1184E+07
300	19	225.	-0.3452E+05	-0.1343E+05	0.3703E+05	0.1195E+06	-0.1071E+06	-0.3950E+05	0.1143E+06	0.8249E+05	0.8058E+06	-0.2285E+07
300	18	213.	-0.3509E+05	-0.2206E+05	0.3977E+05	0.5953E+05	-0.1403E+06	-0.6154E+05	0.1540E+06	0.1420E+06	0.1425E+07	-0.3800E+07
300	17	201.	-0.3300E+05	-0.2182E+05	0.3956E+05	0.7140E+05	-0.1733E+06	-0.8336E+05	0.1935E+06	0.2134E+06	0.2313E+07	-0.5721E+07
300	16	188.	-0.3291E+05	-0.2157E+05	0.3935E+05	0.8316E+05	-0.2061E+06	-0.1049E+06	0.2329E+06	0.2966E+06	0.3466E+07	-0.8042E+07
300	15	176.	-0.3281E+05	-0.2132E+05	0.3913E+05	0.9502E+05	-0.2389E+06	-0.1263E+06	0.2721E+06	0.3916E+06	0.4882E+07	-0.1077E+08
300	14	165.	-0.3272E+05	-0.2109E+05	0.3893E+05	0.1059E+06	-0.2717E+06	-0.1473E+06	0.3110E+06	0.4975E+06	0.6557E+07	-0.1390E+08
300	13	152.	-0.3062E+05	-0.2083E+05	0.3671E+05	0.1186E+06	-0.3043E+06	-0.1682E+06	0.3497E+06	0.6159E+06	0.8491E+07	-0.1743E+08
300	12	137.	-0.3024E+05	-0.2092E+05	0.3845E+05	0.1531E+06	-0.3366E+06	-0.1891E+06	0.3881E+06	0.7692E+06	0.1068E+08	-0.2135E+08
300	11	127.	-0.3186E+05	-0.2106E+05	0.3819E+05	0.1903E+06	-0.3684E+06	-0.2102E+06	0.4263E+06	0.9595E+06	0.1312E+08	-0.2567E+08
300	10	115.	-0.3146E+05	-0.2120E+05	0.3794E+05	0.2271E+06	-0.3999E+06	-0.2314E+06	0.4643E+06	0.1186E+07	0.1583E+08	-0.3038E+08
300	9	103.	-0.3111E+05	-0.2135E+05	0.3773E+05	0.2624E+06	-0.4310E+06	-0.2527E+06	0.5020E+06	0.1449E+07	0.1879E+08	-0.3547E+08
300	8	90.	-0.3212E+05	-0.2198E+05	0.3892E+05	0.2609E+06	-0.4631E+06	-0.2747E+06	0.5411E+06	0.1690E+07	0.2202E+08	-0.4094E+08
300	7	78.	-0.3313E+05	-0.2262E+05	0.4012E+05	0.2193E+06	-0.4963E+06	-0.2973E+06	0.5809E+06	0.1909E+07	0.2553E+08	-0.4682E+08
300	6	66.	-0.3415E+05	-0.2324E+05	0.4131E+05	0.1978E+06	-0.5303E+06	-0.3206E+06	0.6221E+06	0.2107E+07	0.2931E+08	-0.5308E+08
300	5	54.	-0.3516E+05	-0.2388E+05	0.4250E+05	0.1762E+06	-0.5654E+06	-0.3444E+06	0.6649E+06	0.2303E+07	0.3339E+08	-0.5984E+08
300	4	41.	-0.3608E+05	-0.2393E+05	0.4330E+05	0.1934E+06	-0.6015E+06	-0.3684E+06	0.7083E+06	0.2477E+07	0.3775E+08	-0.6696E+08
300	3	29.	-0.3676E+05	-0.2260E+05	0.4299E+05	0.3264E+06	-0.6386E+06	-0.3907E+06	0.7511E+06	0.2800E+07	0.4240E+08	-0.7454E+08
300	2	15.	-0.4424E+05	-0.2461E+05	0.5063E+05	0.5257E+06	-0.6825E+06	-0.4153E+06	0.8017E+06	0.3326E+07	0.4824E+08	-0.8414E+08
300	1	0.	-0.4424E+05	-0.2461E+05	0.5063E+05	0.5257E+06	-0.7269E+06	-0.4399E+06	0.8522E+06	0.3851E+07	0.5442E+08	-0.9435E+08

MARKETPLACE CENTER - BOSTON (LB, LB-FT)
STRUCTURAL LOADS

WL	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
310	21	250.	-0.4117E+05	-0.1103E+05	0.4262E+05	0.1353E+06	-0.4117E+05	-0.1103E+05	0.4262E+05	0.1353E+06	0.1462E+06	-0.5453E+06
310	20	237.	-0.3825E+05	-0.1161E+05	0.3997E+05	0.2997E+06	-0.7939E+05	-0.2264E+05	0.8259E+05	0.4349E+06	0.3525E+06	-0.1284E+07
310	19	225.	-0.3825E+05	-0.1161E+05	0.3997E+05	0.2997E+06	-0.1177E+06	-0.3425E+05	0.1226E+06	0.7346E+06	0.7011E+06	-0.2471E+07
310	18	213.	-0.3638E+05	-0.1791E+05	0.4055E+05	0.2516E+06	-0.1540E+06	-0.5216E+05	0.1631E+06	0.9863E+06	0.1230E+07	-0.4155E+07
310	17	201.	-0.3663E+05	-0.1806E+05	0.4083E+05	0.2658E+06	-0.1907E+06	-0.7021E+05	0.2040E+06	0.1252E+07	0.1979E+07	-0.6268E+07
310	16	188.	-0.3665E+05	-0.1820E+05	0.4110E+05	0.2799E+06	-0.2275E+06	-0.8842E+05	0.2450E+06	0.1532E+07	0.2951E+07	-0.8826E+07
310	15	176.	-0.3709E+05	-0.1835E+05	0.4138E+05	0.2940E+06	-0.2646E+06	-0.1068E+06	0.2864E+06	0.1826E+07	0.4147E+07	-0.1184E+08
310	14	165.	-0.3730E+05	-0.1849E+05	0.4164E+05	0.3069E+06	-0.3019E+06	-0.1253E+06	0.3281E+06	0.2133E+07	0.5566E+07	-0.1531E+08
310	13	152.	-0.3755E+05	-0.1865E+05	0.4193E+05	0.3221E+06	-0.3395E+06	-0.1439E+06	0.3700E+06	0.2455E+07	0.7217E+07	-0.1924E+08
310	12	139.	-0.3644E+05	-0.1864E+05	0.4093E+05	0.3371E+06	-0.3759E+06	-0.1625E+06	0.4109E+06	0.2794E+07	0.9095E+07	-0.2362E+08
310	11	127.	-0.3517E+05	-0.1860E+05	0.3979E+05	0.3565E+06	-0.4111E+06	-0.1812E+06	0.4507E+06	0.3150E+07	0.1120E+08	-0.2844E+08
310	10	115.	-0.3291E+05	-0.1857E+05	0.3866E+05	0.3736E+06	-0.4450E+06	-0.1997E+06	0.4894E+06	0.3524E+07	0.1353E+08	-0.3369E+08
310	9	103.	-0.3270E+05	-0.1856E+05	0.3760E+05	0.3887E+06	-0.4777E+06	-0.2183E+06	0.5272E+06	0.3913E+07	0.1609E+08	-0.3934E+08
310	8	90.	-0.3256E+05	-0.1925E+05	0.3868E+05	0.3429E+06	-0.5113E+06	-0.2376E+06	0.5659E+06	0.4256E+07	0.1889E+08	-0.4540E+08
310	7	78.	-0.3442E+05	-0.1995E+05	0.3978E+05	0.2965E+06	-0.5458E+06	-0.2575E+06	0.6056E+06	0.4553E+07	0.2191E+08	-0.5184E+08
310	6	66.	-0.3527E+05	-0.2064E+05	0.4087E+05	0.2905E+06	-0.5809E+06	-0.2781E+06	0.6464E+06	0.4803E+07	0.2519E+08	-0.5876E+08
310	5	54.	-0.3613E+05	-0.2134E+05	0.4196E+05	0.2041E+06	-0.6170E+06	-0.2995E+06	0.6882E+06	0.5007E+07	0.2873E+08	-0.6608E+08
310	4	41.	-0.3678E+05	-0.2180E+05	0.4277E+05	0.1997E+06	-0.6536E+06	-0.3213E+06	0.7310E+06	0.5205E+07	0.3254E+08	-0.7387E+08
310	3	29.	-0.3683E+05	-0.2169E+05	0.4274E+05	0.3165E+06	-0.6907E+06	-0.3430E+06	0.7738E+06	0.5525E+07	0.3661E+08	-0.8213E+08
310	2	15.	-0.4366E+05	-0.2552E+05	0.5058E+05	0.5031E+06	-0.7346E+06	-0.3685E+06	0.8244E+06	0.6025E+07	0.4176E+08	-0.9244E+08
310	1	0.	-0.4366E+05	-0.2552E+05	0.5058E+05	0.5031E+06	-0.7779E+06	-0.3940E+06	0.8749E+06	0.6531E+07	0.4725E+08	-0.1034E+09

WL	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
320	21	250.	-0.4385E+05	-0.9337E+04	0.4483E+05	0.3216E+06	-0.4385E+05	-0.9337E+04	0.4483E+05	0.3216E+06	0.1238E+06	-0.5809E+06
320	20	237.	-0.4195E+05	-0.9605E+04	0.4303E+05	0.3150E+06	-0.8579E+05	-0.1894E+05	0.8785E+05	0.6366E+06	0.2970E+06	-0.1375E+07
320	19	225.	-0.4195E+05	-0.9605E+04	0.4303E+05	0.3150E+06	-0.1277E+06	-0.2855E+05	0.1309E+06	0.9515E+06	0.5081E+06	-0.2683E+07
320	18	213.	-0.3659E+05	-0.1804E+05	0.4089E+05	0.4088E+06	-0.1645E+06	-0.4660E+05	0.1718E+06	0.1360E+07	0.1048E+07	-0.4473E+07
320	17	201.	-0.3717E+05	-0.1790E+05	0.4125E+05	0.4087E+06	-0.2016E+06	-0.6448E+05	0.2131E+06	0.1769E+07	0.1729E+07	-0.6717E+07
320	16	188.	-0.3764E+05	-0.1776E+05	0.4162E+05	0.4086E+06	-0.2393E+06	-0.8228E+05	0.2547E+06	0.2177E+07	0.2627E+07	-0.9415E+07
320	15	176.	-0.3812E+05	-0.1761E+05	0.4199E+05	0.4085E+06	-0.2774E+06	-0.9987E+05	0.2967E+06	0.2586E+07	0.3743E+07	-0.1258E+08
320	14	165.	-0.3855E+05	-0.1748E+05	0.4233E+05	0.4084E+06	-0.3159E+06	-0.1174E+06	0.3390E+06	0.2995E+07	0.5074E+07	-0.1621E+08
320	13	152.	-0.3707E+05	-0.1733E+05	0.4273E+05	0.4083E+06	-0.3550E+06	-0.1347E+06	0.3817E+06	0.3403E+07	0.6619E+07	-0.2032E+08
320	12	139.	-0.3896E+05	-0.1767E+05	0.4198E+05	0.4243E+06	-0.3930E+06	-0.1523E+06	0.4237E+06	0.3827E+07	0.8378E+07	-0.2491E+08
320	11	127.	-0.3692E+05	-0.1808E+05	0.4110E+05	0.4423E+06	-0.4300E+06	-0.1704E+06	0.4648E+06	0.4269E+07	0.1035E+08	-0.2995E+08
320	10	115.	-0.3576E+05	-0.1849E+05	0.4026E+05	0.4600E+06	-0.4657E+06	-0.1889E+06	0.5051E+06	0.4729E+07	0.1255E+08	-0.3543E+08
320	9	103.	-0.3465E+05	-0.1891E+05	0.3947E+05	0.4752E+06	-0.5004E+06	-0.2078E+06	0.5448E+06	0.5205E+07	0.1499E+08	-0.4135E+08
320	8	90.	-0.3505E+05	-0.1965E+05	0.4018E+05	0.4068E+06	-0.5355E+06	-0.2275E+06	0.5845E+06	0.5613E+07	0.1765E+08	-0.4769E+08
320	7	78.	-0.3545E+05	-0.2041E+05	0.4090E+05	0.3378E+06	-0.5711E+06	-0.2479E+06	0.6257E+06	0.5948E+07	0.2056E+08	-0.5448E+08
320	6	66.	-0.3585E+05	-0.2116E+05	0.4163E+05	0.2695E+06	-0.6067E+06	-0.2690E+06	0.6670E+06	0.6221E+07	0.2373E+08	-0.6170E+08
320	5	54.	-0.3625E+05	-0.2191E+05	0.4236E+05	0.2005E+06	-0.6428E+06	-0.2909E+06	0.7098E+06	0.6417E+07	0.2716E+08	-0.6933E+08
320	4	41.	-0.3633E+05	-0.2247E+05	0.4272E+05	0.1753E+06	-0.6794E+06	-0.3134E+06	0.7521E+06	0.6593E+07	0.3086E+08	-0.7743E+08
320	3	29.	-0.3551E+05	-0.2246E+05	0.4201E+05	0.2757E+06	-0.7150E+06	-0.3359E+06	0.7944E+06	0.6871E+07	0.3484E+08	-0.8599E+08
320	2	15.	-0.4117E+05	-0.2657E+05	0.4896E+05	0.4368E+06	-0.7557E+06	-0.3624E+06	0.8434E+06	0.7310E+07	0.3990E+08	-0.9662E+08
320	1	0.	-0.4112E+05	-0.2657E+05	0.4896E+05	0.4368E+06	-0.7970E+06	-0.3890E+06	0.8924E+06	0.7743E+07	0.4535E+08	-0.1079E+09

MARKETPLACE CENTER - BOSTON (LB, LB-FT)
STRUCTURAL LOADS

WD	FL	Z	Fx	Fy	Fr	Mr	FTx	FTy	FTr	MTz	MTx	MTy
350	21	250.	-0.4871E+05	-0.8084E+04	0.4938E+05	0.4351E+06	-0.4871E+05	-0.8084E+04	0.4938E+05	0.4351E+06	0.1071E+06	-0.6453E+06
350	20	237.	-0.4447E+05	-0.8331E+04	0.4519E+05	0.2252E+06	-0.9311E+05	-0.1641E+05	0.9456E+05	0.6208E+06	0.2572E+06	-0.1514E+07
350	19	225.	-0.4442E+05	-0.8331E+04	0.4519E+05	0.2252E+06	-0.1375E+06	-0.2475E+05	0.1397E+06	0.8363E+06	0.5093E+06	-0.2927E+07
350	18	213.	-0.4246E+05	-0.1793E+05	0.4245E+05	0.3598E+06	-0.1760E+06	-0.4270E+05	0.1822E+06	0.1246E+07	0.9224E+06	-0.4848E+07
350	17	201.	-0.3913E+05	-0.1743E+05	0.4284E+05	0.3726E+06	-0.2152E+06	-0.6015E+05	0.2251E+06	0.1639E+07	0.1552E+07	-0.7343E+07
350	16	188.	-0.3980E+05	-0.1692E+05	0.4324E+05	0.4051E+06	-0.2549E+06	-0.7707E+05	0.2683E+06	0.2064E+07	0.2393E+07	-0.1012E+08
350	15	176.	-0.4047E+05	-0.1640E+05	0.4366E+05	0.4573E+06	-0.2954E+06	-0.9342E+05	0.3120E+06	0.2522E+07	0.3437E+07	-0.1350E+08
350	14	165.	-0.4108E+05	-0.1592E+05	0.4406E+05	0.4824E+06	-0.3365E+06	-0.1094E+06	0.3561E+06	0.3010E+07	0.4679E+07	-0.1736E+08
350	13	152.	-0.4160E+05	-0.1537E+05	0.4453E+05	0.5226E+06	-0.3783E+06	-0.1247E+06	0.4006E+06	0.3532E+07	0.6113E+07	-0.2174E+08
350	12	139.	-0.4078E+05	-0.1586E+05	0.4329E+05	0.5139E+06	-0.4186E+06	-0.1406E+06	0.4439E+06	0.4046E+07	0.7739E+07	-0.2662E+08
350	11	127.	-0.3850E+05	-0.1647E+05	0.4188E+05	0.5000E+06	-0.4571E+06	-0.1571E+06	0.4857E+06	0.4546E+07	0.9559E+07	-0.3199E+08
350	10	115.	-0.3575E+05	-0.1708E+05	0.4052E+05	0.4863E+06	-0.4938E+06	-0.1742E+06	0.5262E+06	0.5032E+07	0.1159E+08	-0.3781E+08
350	9	103.	-0.3552E+05	-0.1769E+05	0.3924E+05	0.4701E+06	-0.5288E+06	-0.1919E+06	0.5654E+06	0.5504E+07	0.1383E+08	-0.4408E+08
350	8	90.	-0.3489E+05	-0.1839E+05	0.3944E+05	0.4819E+06	-0.5638E+06	-0.2102E+06	0.6051E+06	0.5886E+07	0.1630E+08	-0.5077E+08
350	7	78.	-0.3476E+05	-0.1907E+05	0.3965E+05	0.2930E+06	-0.5984E+06	-0.2293E+06	0.6448E+06	0.6175E+07	0.1878E+08	-0.5788E+08
350	6	66.	-0.3466E+05	-0.1979E+05	0.3986E+05	0.2049E+06	-0.6330E+06	-0.2491E+06	0.6846E+06	0.6381E+07	0.2191E+08	-0.6541E+08
350	5	54.	-0.3449E+05	-0.2049E+05	0.4012E+05	0.1160E+06	-0.6675E+06	-0.2695E+06	0.7248E+06	0.6500E+07	0.2509E+08	-0.7341E+08
350	4	41.	-0.3412E+05	-0.2109E+05	0.4011E+05	0.2929E+05	-0.7016E+06	-0.2907E+06	0.7645E+06	0.6577E+07	0.2852E+08	-0.8176E+08
350	3	27.	-0.3305E+05	-0.2141E+05	0.3936E+05	0.1920E+06	-0.7346E+06	-0.3121E+06	0.8042E+06	0.6768E+07	0.3222E+08	-0.9059E+08
350	2	15.	-0.3794E+05	-0.2570E+05	0.4582E+05	0.3510E+06	-0.7728E+06	-0.3376E+06	0.8501E+06	0.7119E+07	0.3693E+08	-0.1015E+09
350	1	0.	-0.3794E+05	-0.2570E+05	0.4582E+05	0.3510E+06	-0.8104E+06	-0.3635E+06	0.8955E+06	0.7470E+07	0.4201E+08	-0.1130E+09

WD	FL	Z	Fx	Fy	Fr	Mr	FTx	FTy	FTr	MTz	MTx	MTy
340	21	250.	-0.4552E+05	-0.7310E+04	0.4618E+05	0.1509E+06	-0.4559E+05	-0.7310E+04	0.4618E+05	0.1509E+06	0.9688E+05	-0.6041E+06
340	20	237.	-0.4235E+05	-0.7578E+04	0.4400E+05	0.7722E+05	-0.8894E+05	-0.1489E+05	0.9017E+05	0.1881E+06	0.2328E+06	-0.1428E+07
340	19	225.	-0.4235E+05	-0.7578E+04	0.4400E+05	0.7722E+05	-0.1323E+06	-0.2246E+05	0.1342E+06	0.2259E+06	0.4616E+06	-0.2783E+07
340	18	213.	-0.3972E+05	-0.1618E+05	0.4105E+05	0.1539E+06	-0.1700E+06	-0.3864E+05	0.1752E+06	0.3791E+06	0.8357E+06	-0.4635E+07
340	17	201.	-0.3700E+05	-0.1540E+05	0.4007E+05	0.1923E+06	-0.2070E+06	-0.5406E+05	0.2153E+06	0.5711E+06	0.1404E+07	-0.6944E+07
340	16	188.	-0.3626E+05	-0.1462E+05	0.3913E+05	0.2324E+06	-0.2433E+06	-0.6866E+05	0.2544E+06	0.8032E+06	0.2155E+07	-0.9703E+07
340	15	176.	-0.3558E+05	-0.1383E+05	0.3815E+05	0.2724E+06	-0.2788E+06	-0.8249E+05	0.2926E+06	0.1079E+07	0.3081E+07	-0.1290E+08
340	14	165.	-0.3470E+05	-0.1311E+05	0.3729E+05	0.3087E+06	-0.3137E+06	-0.9559E+05	0.3298E+06	0.1385E+07	0.4172E+07	-0.1653E+08
340	13	152.	-0.3413E+05	-0.1227E+05	0.3627E+05	0.3517E+06	-0.3479E+06	-0.1079E+06	0.3661E+06	0.1736E+07	0.5417E+07	-0.2058E+08
340	12	139.	-0.3297E+05	-0.1234E+05	0.3520E+05	0.3496E+06	-0.3808E+06	-0.1204E+06	0.4013E+06	0.2106E+07	0.6815E+07	-0.2505E+08
340	11	127.	-0.3165E+05	-0.1277E+05	0.3412E+05	0.3849E+06	-0.4134E+06	-0.1331E+06	0.4354E+06	0.2491E+07	0.8367E+07	-0.2990E+08
340	10	115.	-0.3039E+05	-0.1307E+05	0.3308E+05	0.4001E+06	-0.4428E+06	-0.1462E+06	0.4685E+06	0.2891E+07	0.1008E+08	-0.3514E+08
340	9	103.	-0.2917E+05	-0.1338E+05	0.3210E+05	0.4126E+06	-0.4720E+06	-0.1598E+06	0.5006E+06	0.3304E+07	0.1195E+08	-0.4075E+08
340	8	90.	-0.2965E+05	-0.1392E+05	0.3275E+05	0.3397E+06	-0.5017E+06	-0.1735E+06	0.5334E+06	0.3647E+07	0.1399E+08	-0.4671E+08
340	7	78.	-0.3013E+05	-0.1447E+05	0.3342E+05	0.2663E+06	-0.5319E+06	-0.1879E+06	0.5669E+06	0.3909E+07	0.1620E+08	-0.5303E+08
340	6	66.	-0.3060E+05	-0.1502E+05	0.3408E+05	0.1934E+06	-0.5623E+06	-0.2029E+06	0.6010E+06	0.4103E+07	0.1860E+08	-0.5974E+08
340	5	54.	-0.3108E+05	-0.1556E+05	0.3475E+05	0.1200E+06	-0.5932E+06	-0.2185E+06	0.6355E+06	0.4223E+07	0.2113E+08	-0.6680E+08
340	4	41.	-0.3094E+05	-0.1670E+05	0.3490E+05	0.9543E+05	-0.6242E+06	-0.2347E+06	0.6706E+06	0.4318E+07	0.2396E+08	-0.7428E+08
340	3	29.	-0.2889E+05	-0.1712E+05	0.3359E+05	0.2109E+06	-0.6531E+06	-0.2518E+06	0.7042E+06	0.4529E+07	0.2694E+08	-0.8213E+08
340	2	15.	-0.3198E+05	-0.2128E+05	0.3841E+05	0.3767E+06	-0.6851E+06	-0.2731E+06	0.7423E+06	0.4906E+07	0.3075E+08	-0.9182E+08
340	1	0.	-0.3198E+05	-0.2128E+05	0.3841E+05	0.3767E+06	-0.7171E+06	-0.2944E+06	0.7810E+06	0.5282E+07	0.3486E+08	-0.1020E+09

MARKETPLACE CENTER - BOSTON (LB, LB-FT)
STRUCTURAL LOADS

MD	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
360	21	250.	-0.4603E+05	-0.3745E+04	0.4619E+05	-0.3723E+06	-0.4603E+05	-0.3745E+04	0.4619E+05	-0.3723E+06	0.4962E+06	-0.6098E+06
360	20	242.	-0.4778E+05	-0.4054E+04	0.4797E+05	-0.1078E+06	-0.8930E+05	-0.7805E+04	0.8966E+05	-0.1400E+06	0.1204E+06	-0.1439E+07
360	19	235.	-0.4628E+05	-0.4059E+04	0.4647E+05	-0.1023E+06	-0.1356E+06	-0.1186E+05	0.1361E+06	-0.2438E+06	0.2408E+06	-0.2795E+07
360	18	213.	-0.3761E+05	-0.3611E+04	0.3778E+05	-0.8670E+05	-0.1702E+06	-0.2047E+05	0.1717E+06	-0.3030E+06	0.4389E+06	-0.4653E+07
360	17	201.	-0.3647E+05	-0.8154E+04	0.3737E+05	-0.1991E+05	-0.2066E+06	-0.2863E+05	0.2090E+06	-0.3221E+06	0.7398E+06	-0.6957E+07
360	16	188.	-0.3514E+05	-0.7697E+04	0.3597E+05	-0.2186E+05	-0.2417E+06	-0.3633E+05	0.2449E+06	-0.3002E+06	0.1137E+07	-0.9703E+07
360	15	176.	-0.3390E+05	-0.7233E+04	0.3467E+05	0.6309E+05	-0.2756E+06	-0.4357E+05	0.2796E+06	-0.2371E+06	0.1627E+07	-0.1288E+08
360	14	165.	-0.3274E+05	-0.6820E+04	0.3347E+05	0.1606E+06	-0.3084E+06	-0.5039E+05	0.3131E+06	-0.1365E+06	0.2207E+07	-0.1645E+08
360	13	153.	-0.3144E+05	-0.6330E+04	0.3207E+05	0.1448E+06	-0.3393E+06	-0.5675E+05	0.3452E+06	0.8280E+04	0.2858E+07	-0.2042E+08
360	12	139.	-0.3004E+05	-0.5845E+04	0.3072E+05	0.1731E+06	-0.3698E+06	-0.6319E+05	0.3759E+06	0.1814E+06	0.3593E+07	-0.2477E+08
360	11	127.	-0.2894E+05	-0.5547E+04	0.2937E+05	0.1999E+06	-0.3985E+06	-0.6985E+05	0.4053E+06	0.3814E+06	0.4408E+07	-0.2947E+08
360	10	115.	-0.2770E+05	-0.5846E+04	0.2805E+05	0.2265E+06	-0.4256E+06	-0.7666E+05	0.4333E+06	0.6077E+06	0.5303E+07	-0.3452E+08
360	9	103.	-0.2638E+05	-0.7053E+04	0.2673E+05	0.2507E+06	-0.4515E+06	-0.8372E+05	0.4600E+06	0.8584E+06	0.6268E+07	-0.3989E+08
360	8	90.	-0.2614E+05	-0.7621E+04	0.2724E+05	0.1958E+06	-0.4776E+06	-0.9136E+05	0.4873E+06	0.1054E+07	0.7361E+07	-0.4559E+08
360	7	78.	-0.2645E+05	-0.8274E+04	0.2772E+05	0.1404E+06	-0.5041E+06	-0.9967E+05	0.5150E+06	0.1195E+07	0.8532E+07	-0.5159E+08
360	6	66.	-0.2678E+05	-0.8843E+04	0.2820E+05	0.8538E+05	-0.5308E+06	-0.1085E+06	0.5422E+06	0.1280E+07	0.9807E+07	-0.5793E+08
360	5	54.	-0.2707E+05	-0.9497E+04	0.2869E+05	0.3000E+05	-0.5582E+06	-0.1180E+06	0.5721E+06	0.1310E+07	0.1119E+08	-0.6459E+08
360	4	41.	-0.2556E+05	-0.1068E+05	0.2769E+05	0.1339E+05	-0.5845E+06	-0.1287E+06	0.6005E+06	0.1324E+07	0.1271E+08	-0.7160E+08
360	3	29.	-0.2335E+05	-0.1357E+05	0.2727E+05	0.1034E+06	-0.6092E+06	-0.1423E+06	0.6278E+06	0.1432E+07	0.1436E+08	-0.7893E+08
360	2	15.	-0.2184E+05	-0.1924E+05	0.2913E+05	0.2328E+06	-0.6340E+06	-0.1615E+06	0.6593E+06	0.1665E+07	0.1656E+08	-0.8790E+08
360	1	0.	-0.2480E+05	-0.1924E+05	0.3139E+05	0.2328E+06	-0.6577E+06	-0.1808E+06	0.6907E+06	0.1897E+07	0.1905E+08	-0.9724E+08

MD	FL	Z	Fx	Fy	Fr	Mz	FTx	FTy	FTr	MTz	MTx	MTy
360	21	250.	-0.4220E+05	0.3146E+04	0.4232E+05	-0.1903E+06	-0.4220E+05	0.3146E+04	0.4232E+05	-0.1903E+06	-0.4168E+05	-0.5592E+06
360	20	237.	-0.3948E+05	0.2582E+04	0.3956E+05	-0.1724E+06	-0.8166E+05	0.5726E+04	0.8187E+05	-0.3625E+06	-0.9600E+05	-0.1318E+07
360	19	225.	-0.3948E+05	0.2582E+04	0.3956E+05	-0.1724E+06	-0.1212E+06	0.8311E+04	0.1214E+06	-0.5350E+06	-0.1820E+06	-0.2560E+07
360	18	213.	-0.3513E+05	0.6913E+04	0.3647E+05	-0.1516E+06	-0.1570E+06	0.1523E+05	0.1579E+06	-0.6866E+06	-0.3262E+06	-0.4264E+07
360	17	201.	-0.3444E+05	0.6453E+04	0.3504E+05	-0.1504E+06	-0.1914E+06	0.2168E+05	0.1929E+06	-0.8367E+06	-0.5520E+06	-0.6397E+07
360	16	188.	-0.3308E+05	0.5994E+04	0.3361E+05	-0.1552E+06	-0.2245E+06	0.2767E+05	0.2266E+06	-0.9863E+06	-0.8543E+06	-0.8945E+07
360	15	176.	-0.3171E+05	0.5530E+04	0.3218E+05	-0.1480E+06	-0.2562E+06	0.3320E+05	0.2588E+06	-0.1134E+07	-0.1227E+07	-0.1189E+08
360	14	165.	-0.3046E+05	0.5108E+04	0.3088E+05	-0.1469E+06	-0.2866E+06	0.3831E+05	0.2896E+06	-0.1281E+07	-0.1665E+07	-0.1521E+08
360	13	153.	-0.2898E+05	0.4611E+04	0.2935E+05	-0.1456E+06	-0.3156E+06	0.4292E+05	0.3190E+06	-0.1432E+07	-0.2163E+07	-0.1890E+08
360	12	139.	-0.2805E+05	0.4094E+04	0.2832E+05	-0.1210E+06	-0.3438E+06	0.4702E+05	0.3475E+06	-0.1540E+07	-0.2714E+07	-0.2294E+08
360	11	127.	-0.2754E+05	0.3539E+04	0.2777E+05	-0.9358E+05	-0.3714E+06	0.5059E+05	0.3753E+06	-0.1641E+07	-0.3311E+07	-0.2732E+08
360	10	115.	-0.2687E+05	0.3049E+04	0.2704E+05	-0.5639E+05	-0.3982E+06	0.5365E+05	0.4023E+06	-0.1708E+07	-0.3950E+07	-0.3204E+08
360	9	103.	-0.2618E+05	0.2493E+04	0.2630E+05	-0.4090E+05	-0.4245E+06	0.5613E+05	0.4286E+06	-0.1748E+07	-0.4622E+07	-0.3708E+08
360	8	90.	-0.2540E+05	0.1081E+04	0.2543E+05	-0.7165E+05	-0.4498E+06	0.5721E+05	0.4540E+06	-0.1820E+07	-0.5319E+07	-0.4243E+08
360	7	78.	-0.2462E+05	-0.3461E+03	0.2462E+05	-0.1027E+06	-0.4744E+06	0.5685E+05	0.4787E+06	-0.1923E+07	-0.6015E+07	-0.4809E+08
360	6	66.	-0.2384E+05	-0.1762E+04	0.2391E+05	-0.1334E+06	-0.4983E+06	0.5509E+05	0.5026E+06	-0.2056E+07	-0.6701E+07	-0.5406E+08
360	5	54.	-0.2305E+05	-0.3189E+04	0.2328E+05	-0.1644E+06	-0.5215E+06	0.5190E+05	0.5257E+06	-0.2221E+07	-0.7356E+07	-0.6030E+08
360	4	41.	-0.2165E+05	-0.5205E+04	0.2226E+05	-0.1651E+06	-0.5432E+06	0.4671E+05	0.5478E+06	-0.2384E+07	-0.7960E+07	-0.6680E+08
360	3	29.	-0.1838E+05	-0.8997E+04	0.2049E+05	-0.7800E+05	-0.5613E+06	0.3771E+05	0.5665E+06	-0.2464E+07	-0.8478E+07	-0.7356E+08
360	2	15.	-0.1816E+05	-0.1482E+05	0.2344E+05	0.3442E+04	-0.5793E+06	0.2269E+05	0.5922E+06	-0.2460E+07	-0.8919E+07	-0.8187E+08
360	1	0.	-0.1816E+05	-0.1482E+05	0.2344E+05	0.3442E+04	-0.5979E+06	0.8073E+04	0.6154E+06	-0.2457E+07	-0.9141E+07	-0.9038E+08

SUMMARY G

MARKETPLACE CENTER - BOSTON

STRUCTURAL LOADS
(KIP, KIP-FT)

WD	FL	Z	FTx	FTy	FTr	MTz	MTx	MTy
10	1	0.	-573.6	192.4	621.6	-4722.2	-32938.0	-85375.7
20	1	0.	-644.3	311.0	765.4	-6997.2	-51707.9	-97318.2
30	1	0.	-477.3	271.3	558.3	-2539.7	-41140.7	-66344.9
40	1	0.	-479.0	335.2	592.2	1431.6	-47695.2	-66523.4
50	1	0.	-413.3	481.7	648.7	5913.2	-70218.7	-53599.0
60	1	0.	-219.3	480.8	546.9	5012.4	-73418.0	-24353.1
70	1	0.	5.7	548.1	560.4	-421.9	-84450.0	5209.3
80	1	0.	159.6	544.0	583.0	-1961.6	-84450.0	26388.5
90	1	0.	387.1	525.5	664.7	-1799.3	-82684.8	60455.4
100	1	0.	385.6	575.9	708.3	-1652.0	-90848.5	60179.6
110	1	0.	299.5	310.1	445.2	2068.4	-48939.6	48780.2
120	1	0.	262.6	201.5	354.5	2629.1	-31739.0	45472.4
130	1	0.	344.5	103.2	391.0	2481.7	-18858.5	57268.9
140	1	0.	538.4	87.5	590.2	5065.3	-17810.3	90187.6
150	1	0.	595.8	77.9	649.5	3719.9	-16997.8	99819.9
160	1	0.	572.1	7.9	631.9	464.0	-8559.2	99304.0
170	1	0.	553.0	-42.4	618.0	-1540.4	-1671.9	98427.0
180	1	0.	433.4	-68.1	498.2	-1166.9	2649.5	79082.1
190	1	0.	199.7	-60.0	269.3	-903.3	3636.3	39628.7
200	1	0.	141.2	-75.2	213.1	-651.0	6169.7	27299.6
210	1	0.	100.7	-107.3	201.3	223.6	10972.4	19788.6
220	1	0.	-2.6	-128.0	169.9	531.9	15254.1	2552.0
230	1	0.	-62.8	-67.5	99.4	1042.0	8052.7	-5705.5
240	1	0.	-76.3	-18.5	84.8	522.1	378.8	-6788.8
250	1	0.	-76.4	1.6	86.3	-23.5	-2447.8	-5813.8
260	1	0.	-43.3	-42.4	64.5	236.8	3687.4	-1757.0
270	1	0.	-193.8	-101.5	219.7	1516.1	11962.9	-22032.6
280	1	0.	-582.9	-351.1	683.0	2158.4	45380.6	-74078.2
290	1	0.	-673.2	-161.8	820.7	1253.6	58757.0	-85324.1
300	1	0.	-726.9	-439.9	852.2	3851.4	54423.8	-94351.7
310	1	0.	-777.9	-494.0	874.9	6530.9	47289.3	-103430.9
320	1	0.	-797.0	-387.6	892.4	7743.1	45349.7	-107919.0
330	1	0.	-810.4	-764.5	895.5	7469.7	42012.0	-112974.4
340	1	0.	-717.1	-291.4	781.0	5282.5	34857.0	-101986.5
350	1	0.	-657.7	-180.8	690.7	1897.4	19050.9	-97240.6
360	1	0.	-597.9	8.1	615.4	-2456.5	-9141.1	-96379.5

Morrison Hershfield Limited
Consulting Engineers

PEDESTRIAN LEVEL WIND ASSESSMENT
FOR
THE MARKETPLACE DEVELOPMENT
BOSTON, MASSACHUSETTS

Submitted to:

WEBB ZERAFA MENKES HOUSDEN GROUP
ARCHITECTS AND PLANNERS
BOSTON, MASSACHUSETTS

November 15, 1982

Report 4821991

650 Woodlawn Road West, Guelph, Ontario N1K 1B8, Telephone (519) 823-1311, Telex 069-56639
Edmonton Guelph Toronto

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1.0 INTRODUCTION

The objectives of this study were to determine the wind conditions in pedestrian areas in the vicinity of the proposed Marketplace Center, Boston, and to optimize the wind environment by means of landscaping and building modifications. The development consists of a 278 ft. high building and other lower structures with ground level plaza areas.

Major buildings, especially those that protrude well above their surroundings, often cause increased local wind speeds at pedestrian level. Typically they intercept the high winds that exist well above ground level, where the wind has not been slowed down as much by the friction of obstacles on the earth's surface, and bring these strong winds down to pedestrian level. In addition, the funneling of wind in the gaps between buildings and the acceleration of wind around corners may cause additional increases in speed. The severity of wind problems at pedestrian level generally increases with building height. The Marketplace Center is not as high as many other buildings in Boston. It is exposed to winds from the east but the more commonly occurring winds are from the west where numerous other buildings provide shelter.

At present, the most effective way to assess potential wind problems around a proposed new building, and to develop remedial measures, is to conduct scale model tests in a wind tunnel. For Marketplace Center wind speeds were measured at 46 locations on a 1:500 scale model, Figure 1, in Morrison Hershfield Limited's boundary layer wind tunnel laboratory. The locations of the wind speed measurements are shown in Figure 2. In addition a flow visualization study was conducted in the laboratory's water flume and the project architect participated in these tests. This provided a physical understanding of the flow patterns and

expedited experimentation with various landscaping schemes and building modifications aimed at improving the wind environment. In the water flume streams of dye are introduced into the water flow to make the flow patterns visible. In the course of the study the meteorological data for the Boston area were analyzed and combined with the wind-tunnel data in order to predict the frequency of occurrence of various wind conditions for three different site configurations: i) without the Marketplace Center present (the no-build condition); ii) with Marketplace Center present but without remedial measures to control winds (build condition); iii) with Marketplace Center and with remedial measures present such as landscaping and building modifications (build plus remedial measures). Figure 3 shows the final landscaping and building scheme for controlling the winds.

In this report Section 2 summarizes the comfort criteria that have been used, Section 3.0 gives an overall description of the methods and equipment employed in the study, Section 4.0 describes the main results and Section 5.0 gives the conclusions.

2.0 WIND COMFORT CRITERIA

An important part of assessing the quality of the wind environment is first deciding what wind conditions cause discomfort or danger to people and how often such wind conditions should be permitted to occur. A typical record of the wind speed at an urban location is shown in Figure 4. It consists of a mean value about which the instantaneous value fluctuates as gusts come and go. For simplicity it is desirable to characterize a given wind condition by a single speed. Often the mean speed, $\bar{U}$, averaged over a period of about an hour is used as the characteristic speed. Another choice is the 'effective gust speed' defined as

$$U_{eff} = \bar{U} + 1.5\sigma_u$$

where σ_u = root-mean-square value of the wind speed fluctuations. A third choice is the peak gust speed, $\hat{U}$, which will occur on average for a few seconds about once every five minutes while the particular wind conditions last. In an urban environment the peak gust, $\hat{U}$, occurring on average once in five minutes will typically be about twice the mean speed, $\bar{U}$, and the effective gust speed, U_{eff}, will typically be about 1.5 times the mean speed, although these ratios can be quite variable. The three foregoing characteristic wind speeds are illustrated in Figure 4. Whatever method is used to define the wind conditions, it is important to ensure that the critical wind speeds stated in comfort criteria are appropriate to that particular definition. In this report the discussion is principally in terms of the effective gust speed.

Table 1 is the land Beaufort scale in which a description of the effects of various wind speeds is given. The wind speeds in the scale have been adjusted downwards by 20% compared with the original version in order to reflect speeds at pedestrian level (6 ft.) rather than the original 30 feet. This scale, which dates back in various forms to 1805, was derived from observations of mean speed in open country. In an urban situation the gustiness is greater and the mean speed lower. To compensate for these effects in urban areas the speeds in Table 1 may be regarded as approximately equivalent to the effective gust speed, U_{eff}, defined above.

The land Beaufort scale's implication that an effective gust speed of about 34 m.p.h. "generally impedes progress" is important and is consistent with more recent observations by a number of researchers that people are likely to be blown over by

BEAUFORT RANGE	DESCRIPTION	REPRESENTATIVE WINDSPEED M.P.H.	RANGE OF WINDSPEEDS M.P.H.	NOTICEABLE EFFECT OF WIND
1	Light Air	2	1 - 2	Direction shown by smoke drift but not by wind vanes
2	Light breeze	4	3 - 5	Wind felt on face, leaves rustle;wind vanes moved
3	Gentle breeze	8	6 - 9	Leaves and small twigs in constant motion; wind extends light flag
4	Moderate breeze	12	10 - 14	Raises dust and loose paper and moves small branches
5	Fresh breeze	17	15 - 19	Small trees in leaf begin to sway; crested wavelets form on inland waters
6	Strong breeze	22	20 - 25	Large branches begin to move; telegraph wires whistle;umbrellas used with difficulty
7	Near Gale	28	26 - 30	Whole trees in motion, inconvenience felt in walking against wind
8	Gale	34	31 - 37	Twigs break off; generally impedes progress
9	Strong gale	40	38 - 43	Slight structural damage occurs, e.g. roofing shingles, T.V. antennas,

TABLE 1
LAND BEAUFORT SCALE - (SPEEDS ADJUSTED TO 6FT. HEIGHT)

the peak gusts of $\hat{U}$ = 45 m.p.h. or more which would occur in wind conditions where the effective gust speed is 34 m.p.h. It indicates the onset of hazardous conditions, the frequent occurrence of which is to be avoided. At lower speeds the wind is not a hazard but can still cause discomfort. For the comfort of people in outdoor strolling or lounging areas the effective gust speed of approximately 12 m.p.h. which raises dust and loose paper is worth noting. The land Beaufort scale has formed a common background to many of the comfort criteria that have been devised by different researchers. The criteria used in the present study are shown in Table 2. They are based to a large extent on those published by Melbourne[1] which in turn have much in common with those developed by A. G. Davenport[2]. The criteria refer to the effective gust speed, U_{eff}, and are discussed in more detail in Appendix A. In the main text no differentiation is made between summer and winter. Information on summer and winter criteria is given in Appendices A and G.

PEDESTRIAN ACTIVITY	FRACTION OF TIME 0.1%	1%	5%	20%
Walking (Area used only occasionally)	38*	31*	25	18
Walking (main thoroughfare, entrances, etc.)	26	22	17	13
Standing, strolling	21	17	14	10
Lounging, sitting	17	14	11	8

* These speeds represent hazardous conditions.

TABLE 2

SUGGESTED EFFECTIVE GUST SPEED, $U_{eff} = \bar{U} + 1.5\sigma_u$, IN MILES PER HOUR, FOR COMFORTABLE CONDITIONS.

When considering the peak gust, $\hat{U}$, all the wind speeds in Table 2 should be raised by a factor of 4/3 and when considering the mean speed, $\bar{U}$, the values in Table 2 should be lowered by the factor 2/3. As an example of the use of Table 2, in an area where people walk frequently, such as near a main entrance, it is desirable that the effective gust speed not exceed 22 m.p.h. for more than 1% of the time or 13 m.p.h. for more than 20% of the time. In an area designated for more leasurely activity, such as a plaza where people will stand or stroll, the desirable speeds are reduced to 17 p.m.p. and 10 m.p.h. respectively.

In using comfort criteria such as Table 2, some flexibility and judgment must be exercised since it is often impossible to meet the criteria in all areas. In some areas the wind speeds may be below the criteria and in others they may be above and in a situation like this it would be reasonable, after examining all feasible alternatives for mitigating measures, such as landscaping, to accept a trade-off. If a building is proposed for an area where existing wind speeds are high then perhaps a better criteria is whether the conditions are made any worse than those already existing.

However, where hazardous conditions are found to occur there should clearly be a more rigorous application of criteria. In this report hazardous conditions were taken to be where the effective gust speed is 31 m.p.h. for more than 1% of the time. Normally, if the effective gust speed exceeds 31 m.p.h. for 1% of the time, then it would also exceed the dangerous level of 38 m.p.h. for 0.1% of the time. The fraction 0.1% of the time corresponds to events that occur roughly once or twice a year. Hazardous conditions are flagged in Table 2.

Another consideration in judging the wind comfort is whether pedestrians will be subjected to a very sudden increase

in speed as they pass from a sheltered zone into a strong wind stream. The sudden change can be cause for discomfort or concern. This most often occurs as they pass gaps between building or go around corners.

3.0 METHODOLOGY OF STUDY

3.1 Model Testing

The 1:500 scale model of the Marketplace Center and surroundings within a radius of 2000 feet was mounted on a turntable, Figure 1, in Morrison Hershfield Limited's boundary-layer wind-tunnel (working section dimensions: 57 ft. long by 8 ft. wide by 7 ft. high) and instrumented with 46 wind speed sensors of the type described by Irwin[3]. Figure 2 shows the instrumented locations. These wind speed sensors are omnidirectional and measure both the mean and fluctuating components of wind speed parallel to the ground at a height of 6 ft. full scale. The turntable was rotated to simulate various wind directions and data were recorded for thirty-six wind azimuths in 10 degree increments starting from true north and analyzed by the wind tunnel's automated computer system. The sampling time for the measurements corresponded to approximately one hour at full scale. Upwind of the turntable the frictional effects of the earth's surface were simulated by a combination of generalized roughness on the long working section floor and turbulence generators at the extreme upwind end of the working section. The flow approaching the turntable was thereby tailored to have the same characteristics as the wind approaching the full scale site. Two different approach flows were simulated: one corresponded to the smooth exposure C of the ANSI code and was used for wind azimuths in the range 50° to 140° inclusive [0° = true north] since the fetch upwind of the site is smooth in this range; the second corresponded to the

suburban exposure B of the ANSI code and was used for all other wind azimuths. The more local effects of all structures within a radius of 2000 ft. were automatically included since they were fully modelled on the turntable.

Details of the wind tunnel, wind simulation and instrumentation are given in Appendices B, C and D.

From the speed measurements the mean speed, $\bar{U}$, the root-mean-square value, σ_u, the effective gust speed, U_{eff} and the peak gust, $\hat{U}$, (as defined in Section 2) were evaluated and then expressed as a fraction of the gradient wind speed high above the city. The gradient wind speed is reached at a height typically about 900 feet to 1500 feet above ground, depending on the terrain, and represents the speed above the lowest layer of the atmosphere, called the planetary boundary layer, in which the earth's surface friction slows down the wind.

The tests were conducted for the three site configurations, i), ii) and iii), given in the introduction in order to determine the effect of the new project and remedial measures on the pedestrian wind environment. To aid in the development of remedial measures flow visualization studies were undertaken in Morrison Hershfield Limited's water flume, with dye being introduced to show the flow patterns. Various alternative landscaping schemes and building modifications were experimented with visually in the water flume prior to being quantitatively tested in the wind tunnel. Appendix E gives a description of the water flume.

3.2 Boston Wind Climate Analysis

The objective of this analysis was to determine the frequency of occurrence of various gradient wind speeds and

directions in the Boston area. With this information and the wind tunnel data on the ratios of pedestrian level wind speeds to gradient wind speed it was then possible to predict the frequency of occurrence of various wind conditions at ground level around the proposed building. The details of the analysis are given in Appendix F and plots of the ratios of ground level wind speed to gradient speed measured in the model tests are given in Appendix G. Since the gradient wind speed remains constant over a wide area, (except in mountainous regions) the value at Logan Airport, Figure 5, would be essentially the same as over the site in Boston. Thus, in this analysis 35 years of hourly wind data at Logan Airport, obtained on magnetic tape, were analyzed in order to predict the statistics of the gradient wind. The details of this analysis are given in Appendix F.

Figure 6 shows a plot of the resulting probability distribution. On this plot the radial scale is the gradient wind speed and contours of constant probability are shown. The probability of a particular wind speed occurring during any one hour within a ten degree sector can be read by interpolating between the probability contours. The plot shows that the most common wind speeds are from the west but the rare very strong speeds occur from several directions with roughly equal probability.

In deriving the statistical results illustrated in Figure 6 a number of factors were taken into account including changes in anemometer height over the years and the roughness of the upwind fetch at the anemometer site. The fetch to the west of the anemometer is not the ideal smooth terrain that is desirable for an anemometer site except within the nearest mile or two (depending on precise direction) whereas to the east it is very smooth. The built up zones of Boston and Cambridge lie to the west but there are also significant expanses of smooth water

between these built up zones and the anemometer. In the analysis, wind directions relative to true North of 60 degrees through 210 degrees inclusive were treated as having a smooth exposure wind profile (Exposure C of ANSI) in extrapolating from anemometer to gradient height. For the remaining directions a rougher exposure was assumed resulting in a 10% increase in the predicted gradient wind speeds. The rougher exposure (see Appendix F) was based on the available information on the influence of a change in surface roughness on wind characteristics downwind of the change. The use of ANSI exposure C in extrapolating from anemometer to gradient height for easterly winds is, if anything, a conservative assumption because of the extremely smooth fetch in that direction.

Other analyses of the Boston wind data have been published by Surrey and Davenport [4] and by Cohen et al[5]. For winds approaching the anemometer from over the built up zones to the west, the presently assumed wind speed profile at the anemometer site is generally consistent with their findings. For easterly winds, the present analysis is more conservative than Surrey and Davenport's; that is, it gives higher gradient wind speeds. A detailed discussion of the present results and those of the aforementioned authors is given in Appendix F.

4.0 TEST RESULTS

4.1 General Comments

In this section, to conform with the format for the Environmental Impact Report, the discussion centers on the wind speeds that are exceeded on average for 1% of the time and 20% of the time and how they compare with the criteria in Table 2. A detailed presentation of the results in the form of polar plots of wind speed ratios and plots of wind speeds versus

probability and frequency of occurrence during daylight hours in winter and summer is given in Appendix G. To obtain a more complete picture of the pedestrian wind conditions, it is recommended that Appendix G be referred to.

Tables 3 and 4 show the wind speeds that are exceed for 1% and 20% of the time on an annual basis at the various numbered locations shown in Figure 2. To give an overall picture of the wind conditions, results for the mean, effective gust and peak gust speeds defined in Section 2 are shown. However, the present discussion will be focussed principally on the effective gust speeds which are listed in columns 3, 6 and 9 for the no-build, build and build plus remedial measures cases respectively.

4.2 Safety Considerations

The speeds for the no-build condition in column 3 of Table 3 are all below the safety or hazard limit of 31 m.p.h. for 1% of the time discussed in Section 2. The location that comes closest to this speed is number 46 which is well away from the site at the northeast corner of the Chatham Row/State Street intersection.

With the building in place, column 6 in Table 3, there is one location where wind speeds are raised to above the safety limit. This is at location 4 on State Street where the effective gust speed was raised to 33.1 m.p.h. Other nearby locations on State Street also experience increased speeds but not to hazardous levels. Flow visualization tests in the water flume showed that the northwesterly winds were intercepted by the Marketplace tower and redirected downwards into State Street causing the increased speeds. To reduce wind speeds in this area, a scheme of building modifications, coniferous canopy and

	EXISTING CONDITIONS			WITH BUILDING			WITH BUILDING & SOLUTIONS		
	Mean*	Effective Gust*	Peak Gust*	Mean*	Effective Gust*	Peak Gust*	Mean*	Effective Gust*	Peak Gust*
(1) Location	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	11.3	17.4	24.5	15.3	22.3	30.4	11.8	19.1	26.4
2	8.5	14.9	24.1	17.8	24.4	31.0	12.2	17.2	23.8
3	8.9	15.5	23.6	16.4	22.4	29.1	9.1	13.9	21.5
4	12.2	18.3	26.2	26.3	33.1	39.7	9.8	15.3	24.2
5	12.6	18.8	26.2	15.5	23.9	32.3	covered		
6	12.7	18.8	26.8	17.9	23.8	30.4	13.1	17.3	24.1
7	11.8	18.7	26.7	20.6	26.5	32.5	18.4	23.8	30.4
8	11.5	17.7	24.9	15.8	22.1	28.8	12.0	17.3	24.0
9	14.7	21.3	28.7	14.5	21.1	28.7	11.3	16.7	24.2
10	11.2	17.1	24.7	8.5	15.2	22.8	8.6	14.0	22.6
12	13.2	19.9	28.0	19.0	25.6	32.9	19.7	26.6	33.9
13	14.0	19.2	25.0	7.1	12.8	19.1	7.0	13.6	19.4
15	19.9	25.6	30.9	16.6	21.6	27.3	14.3	19.5	25.5
16	17.9	24.0	29.8	18.3	23.6	29.5	18.0	24.5	31.3
17	15.9	21.3	27.6	20.1	25.1	30.1	16.9	21.5	27.0
18	16.3	21.6	27.9	22.5	27.5	32.7	5.1	9.4	17.3
19	18.8	25.0	31.9	18.0	23.2	30.4	19.6	25.0	31.7
20	19.4	26.0	33.8	21.4	27.7	35.6	21.0	27.5	35.3
21	19.0	25.6	32.3	8.3	15.2	21.9	7.2	12.9	21.5
22	17.6	23.8	30.3	8.8	15.6	23.0	6.6	11.8	20.6
23	9.3	15.0	23.9	13.6	19.8	27.7	12.8	18.6	26.3
24	19.7	26.1	32.8	11.8	18.6	26.4	10.6	16.2	23.5
25	17.5	23.5	29.8	11.9	18.5	26.5	9.6	15.5	23.4
26	13.6	18.9	23.3	10.5	14.6	21.4	14.1	17.8	23.0
27	14.0	18.7	25.0	5.6	11.0	22.6	5.9	10.5	19.7

29	16.9	22.1	28.2	19.6	23.8	28.3	12.9	17.5	24.6
30	18.6	23.8	30.0	11.0	15.2	21.5	10.7	14.5	21.6
31		covered		19.0	23.5	28.8	19.4	24.8	31.0
32		covered		7.2	12.7	18.1	6.4	11.5	19.0
33	8.5	13.8	22.6	7.0	11.6	18.6	6.6	10.9	19.0
34	14.0	19.2	26.2	11.3	18.5	26.0	9.5	15.4	22.9
35	16.2	21.8	27.9	11.4	18.1	26.1	10.7	17.0	25.3
36	19.9	26.5	34.0	14.7	21.7	29.2	14.3	21.2	28.3
37	18.8	25.6	32.9	15.2	22.4	29.5	14.8	22.1	30.7
38	16.2	22.5	30.6	15.3	21.9	29.8	14.9	21.7	29.7
39	16.4	22.0	27.4	14.2	19.8	26.2	14.1	19.7	26.4
40	16.8	21.9	28.0	11.9	16.8	23.4			
41	11.6	16.2	21.2	14.1	18.9	24.1	12.0	17.1	23.0
42	15.9	21.4	27.5	16.7	22.0	27.3	17.0	22.3	28.5
43	15.5	21.2	27.5	13.8	18.8	24.9	14.2	19.1	26.4
44	17.1	23.9	31.8	15.1	22.0	30.1	15.2	22.2	30.8
45	15.8	22.6	31.0	18.5	25.5	33.2	18.2	24.9	32.7
46	24.3	28.4	32.8	24.2	28.5	33.1	24.0	28.4	33.3
Safety Limits	20	31	41	20	31	41	20	31	41

* For definitions see Section 2.0

TABLE 3

WIND SPEEDS WHICH WILL BE EXCEEDED 1% OF THE TIME
(Wind Speeds in m.p.h.)

	EXISTING CONDITIONS			WITH BUILDING			WITH BUILDING & SOLUTIONS		
	Mean*	Effective Gust*	Peak Gust*	Mean*	Effective Gust*	Peak Gust*	Mean*	Effective Gust*	Peak Gust*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Location									
1	6.3	9.8	14.1	6.9	11.2	16.2	5.8	9.8	14.2
2	4.7	8.4	13.5	7.1	11.3	15.7	5.3	8.3	13.1
3	4.8	8.6	13.6	7.5	11.2	15.6	4.6	7.4	12.1
4	6.0	10.1	15.3	10.6	14.7	19.0	5.1	8.1	13.6
5	6.4	10.2	15.3	7.6	11.9	17.0		covered	
6	6.5	10.5	15.4	9.8	13.5	17.5	5.2	8.3	13.0
7	6.1	10.0	15.0	11.2	14.8	18.7	10.0	13.4	17.6
8	5.9	9.5	14.3	7.7	11.2	15.4	5.5	8.1	12.3
9	7.3	11.0	15.6	7.7	11.5	15.7	5.4	8.6	13.4
10	6.1	9.6	14.2	4.6	8.1	12.6	4.2	7.0	11.9
12	6.3	10.2	14.9	9.8	13.7	17.8	10.2	14.0	18.3
13	6.7	9.8	13.7	3.6	6.2	10.3	3.4	6.7	11.0
15	8.7	11.9	15.3	8.2	11.2	14.7	6.9	9.7	13.7
16	8.7	12.2	15.8	8.5	12.0	15.9	8.4	11.9	16.0
17	8.0	11.3	15.3	9.3	12.3	15.6	7.8	10.5	14.2
18	8.4	11.7	15.8	10.7	13.8	17.1	2.6	4.5	9.3
19	8.9	12.5	16.9	8.4	11.6	15.7	9.1	12.2	16.0
20	9.8	13.4	18.1	9.7	13.4	18.1	9.5	13.1	18.0
21	8.9	12.6	16.9	4.2	7.9	12.0	3.9	7.2	12.3
22	8.4	11.9	16.1	4.8	8.4	12.6	3.4	6.3	11.1
23	4.9	8.2	13.3	6.2	10.0	14.6	5.9	9.1	14.0
24	8.8	12.4	16.8	6.2	10.0	14.6	4.8	8.2	12.8
25	8.7	12.1	16.1	6.2	10.1	14.9	5.3	8.7	13.5
26		8.6	9.8	4.1	6.9	11.7	4.3	7.1	12.0
27	6.9	10.0	14.2	2.7	5.7	10.8	3.1	5.6	11.2

29	8.2	11.5	15.4	9.3	12.2	15.3	6.5	9.2	13.8
30	8.1	11.6	15.4	4.7	7.9	12.0	4.4	7.4	11.9
31		covered		9.0	11.9	15.4	9.4	12.4	16.2
32		covered		3.3	5.4	9.5	3.1	5.4	10.4
33	4.6	7.3	11.7	3.9	6.4	10.7	3.8	6.0	10.8
34	7.1	10.2	14.4	5.1	8.7	13.7	4.9	7.9	12.6
35	8.2	11.4	15.4	6.2	10.0	14.6	5.8	9.4	14.4
36	9.5	13.3	17.7	7.0	10.7	15.3	6.8	10.6	15.5
37	8.4	12.4	17.2	7.0	11.0	15.6	6.9	11.0	16.2
38	7.9	11.8	16.6	7.3	11.1	15.7	7.2	11.2	16.0
39	8.1	11.2	15.0	6.6	9.9	14.1	6.5	9.7	14.2
40	7.8	10.6	14.6	5.4	8.4	12.5			
41	5.3	8.4	12.4	6.6	9.5	13.2	5.6	8.4	12.8
42	8.1	11.5	15.5	7.8	11.3	15.3	7.9	11.4	15.7
43	7.7	11.2	15.3	7.3	10.3	14.3	7.7	10.7	15.3
44	9.0	12.8	17.5	7.7	11.6	16.5	7.4	11.3	16.5
45	8.3	12.2	17.0	8.5	12.4	16.8	8.4	12.3	17.2
46	13.8	16.8	19.6	13.8	17.0	19.7	13.5	16.9	19.9
Comfort limits For Standing	7	10	13	7	10	13	7	10	13

* For definitions see Section 2.0

TABLE 4

WIND SPEEDS WHICH WILL BE EXCEEDED 20% OF THE TIME
(Wind Speeds in m.p.h.)

ground level coniferous plantings was developed. These measures are illustrated in Figure 3. Their success is illustrated by the reduced effective gust speed of 15.3 m.p.h. at location 4, bringing it not only to a safe level but also to a comfortable one.

At location 4 the peak gusts, occurring on average once every five minutes for 1% of the time can be seen in Table 3, column 7, to be nearly 40 m.p.h. without remedial measures. With remedial measures these peak gusts are reduced to 24 m.p.h. (Column 10).

Since location 4 was the only location where safety was found to be endangered prior to implementation of remedial measures, the remainder of the discussion of test results is directed towards the level of comfort that can be expected before and after the implementation of remedial measures, bearing in mind the intended pedestrian activities in different areas.

4.3 Comfort Considerations

It is noted at this point that locations 11, 14 and 28 are excluded from discussion since they were located on a low-rise roof top that became reclassified part way through the study as a non-pedestrian area. Also, locations 31 and 32 were covered by an existing structure in the no-build condition so data were not obtained for this case at those points. Location 5 became covered by a building modification during the development of remedial measures so data were only obtained there for the no-build and build cases. Test data were obtained at location 40 for the no build and build cases but not with remedial measures present. This was a non-critical, low speed location

that was favourably affected by the proposed development and would not be greatly influenced by the remedial measures.

Comments on Existing Conditions:

For heavily used walking areas, the comfort criteria of Section 2 give an effective gust speed of 22 m.p.h. or below for 1% of the time as the desirable condition. Table 3, column 3, shows that in the no-build case there are several areas where the speeds exceed this. Referring to Figure 2, examples are along Marketplace (locations 36, 37 and 38), the junction of Marketplace and Commercial Street (locations 21, 22, 24 and 25), the area adjacent to or under the John Fitzgerald Expressway (locations 15, 16, 29 and 30), to the east of the U.S. Customs House (locations 20, 44 and 45) and further west from the site at the intersection of Chatham Row and State Street (location 46).

Effects of Building and Remedial Measures:

The results in Table 3, column 6, show the addition of the proposed building reduces the wind speeds at most locations immediately west of the site on Commercial Street and in the Quincy Market area. This is because the building tends to block the common westerly winds, slowing them down on the upwind side as they approach the site. The 1% probability winds in this area at locations 8, 9, 10, 13, 21 through 27 and 32 through 41 are all below or at 22 m.p.h. Addition of the landscaping and building modifications shown in Figure 3 reduces wind at many of these locations (see column 9 of Tables 3 and 4). At the 20% probability level Table 4, column 9, shows that with these measures in place, typical effective gust speeds are 6 to 9 m.p.h. except at locations 36 through 40 where values of 10 or 11 m.p.h. are more typical. Thus, much of the Quincy Market

area and the intersection of Marketplace and Commercial Street would have a calm wind environment suitable for more leisurely activities such as standing and strolling.

On the north side of State Street (locations 1 through 6) and at its intersection with Commercial Street (location 7) wind speeds were increased by the proposed building, due primarily to northwesterly winds being deflected off the west face of the tower and down onto State Street. As previously discussed the conditions at location 4 were found hazardous prior to the implementation of remedial measures involving the building modifications, a coniferous canopy and ground level coniferous plantings along the south face of the building which are illustrated in Figure 3. These same measures also substantially improved conditions at locations 1 through 6. Table 3, column 9, shows 1% effective gust speeds of less than 20 m.p.h. were achieved. Thus locations 1 through 6 were made comfortable for walking but location 7 would still have periods of some discomfort.

Near the U.S. Customs House (locations 20, 44 and 45) the existing uncomfortable conditions of above 22 m.p.h for 1% of the time in Table 3, column 6, remained uncomfortable with the project present. Various remedial measures that were tried on the Marketplace building site had little effect in this area. A major massing change consisting of rotating the tower through 90° and moving it northwards did have some beneficial effects but caused noticable increases in speed at the east end of State Street. Conditions at location 12 on the northeast corner of the U.S. Customs House were made worse, but not hazardous, by the proposed building. On-site remedial measures were ineffective in reducing wind speeds at this location where uncomfortable walking conditions would be experienced.

At the north end of the site (locations 31 and 42), location 31 has a 1% effective gust speed of 24.8 m.p.h. which represents uncomfortable conditions. These might be aggravated for pedestrians coming out suddenly from the more sheltered conditions on Commercial Street. The primary causes are west and east winds accelerating around the north end of the building. However, since this is not planned to be a frequently used pedestrian area, and the winds are not hazardous, remedial measures were not investigated. Location 42 was not greatly affected by the building.

Well to the west of the site, location 46 on State Street is an existing high wind area, although not hazardous. It is essentially unaffected by the proposed building. This site experiences high mean wind speeds exceeding 24 m.p.h. for 1% of the time, Table 3, columns 2, 5 and 8, as well as effective gust speeds exceeding 28 m.p.h.

In the east-west passageway through the Marketplace development (locations 17, 18, and 19) 1% effective gust speeds were found to be above the 22 m.p.h. comfortable level for walking. Flow visualization observations showed that coniferous landscaping through the centre of the passage, and glass walls at the western limits of the arcade would reduce the winds. However, the glass walls were omitted for architectural reasons and the landscaping alone was wind tunnel tested. Thus, only location 18 in the centre of the landscaping experienced a large reduction (column 9, Table 3) in the 1% effective gust speed, being reduced to 9.4 m.p.h. Location 17 experienced a reduction to 21.5 m.p.h. and location 19 still had a value above 22 m.p.h. of 25.0 m.p.h. Locations 29 and 30, on the east side of the passageway become comfortable locations for walking after implementation of the coniferous landscaping in the passageway. Location 16 at the northeast corner of the tower, which is not

expected to be a frequently used pedestrian area, is uncomfortable for walking but not hazardous.

Along the proposed walk to the sea, locations 15 and 43 have 1% effective gust speeds below the 22 m.p.h. comfort criterion. At location 15, a significant reduction in wind speed results from the addition of the proposed Marketplace development changing it from an uncomfortable location to a comfortable one for walking.

5.0 CONCLUSIONS

In the Quincy Market and Commercial Street areas, the wind conditions would be generally improved by the new development. Conditions in most of these areas would be comfortable for strolling and standing. Several locations that are uncomfortable in the existing, no-build, condition would be made comfortable by the proposed development.

East of the U.S. Customs House is an existing windy but not hazardous area and conditions there would not be greatly changed by the Marketplace development. Some increase in speed would occur at the northeast corner of the Customs House, making this previously comfortable location uncomfortable. On-site remedial measures had little effect at this location.

Significant wind speed increases on the north side of State Street were found to be caused by the new development but the remedial measures shown in Figure 3 brought the wind speeds down from hazardous or uncomfortable conditions to a generally comfortable walking environment.

The east-west passage through the project exhibited uncomfortable wind speeds without remedial measures. These were

reduced by the landscaping illustrated in Figure 3. The proposed walk to the sea was found to experience wind speed decreases due to the presence of the new development to a range comfortable for walking.

MORRISON HERSHFIELD LIMITED

P.A. Irwin, Ph.D., P.Eng.
Director of Technical Services _____

M.A. Hunter, C.E.T. _____

References

(1) Melbourne, W.H. "Criteria for Environmental Wind Conditions", Journal of Industrial Aerodynamics, 3, (1978), pp.241-249.

(2) Davenport, A.G. "An Approach to Human Comfort Criteria for Environmental Wind Conditions, Colloquim on Building Climatology, Stockholm, 1972.

(3) Irwin, P.A. "A Simple Omnidirectional Sensor for Wind Tunnel Studies of Pedestrian Level Winds", Journal of Wind Engineering and Industrial Aerodynamics, 7, (1981), pp.219-239.

(4) Surry, D. and Davenport, A.G. "Modelling the Wind Climate, Workshop on Wind Climate, Asheville, N.C., Nov. 1979.

(5) Cohen,H., McLaren,T. Moss,S., Petyk,R., and Zube,E. "Pedestrians and Wind in the Urban Environment", University of Massachusetts Report, UMASS/IME/R-77/13, Dec. 1977.

FIGURES

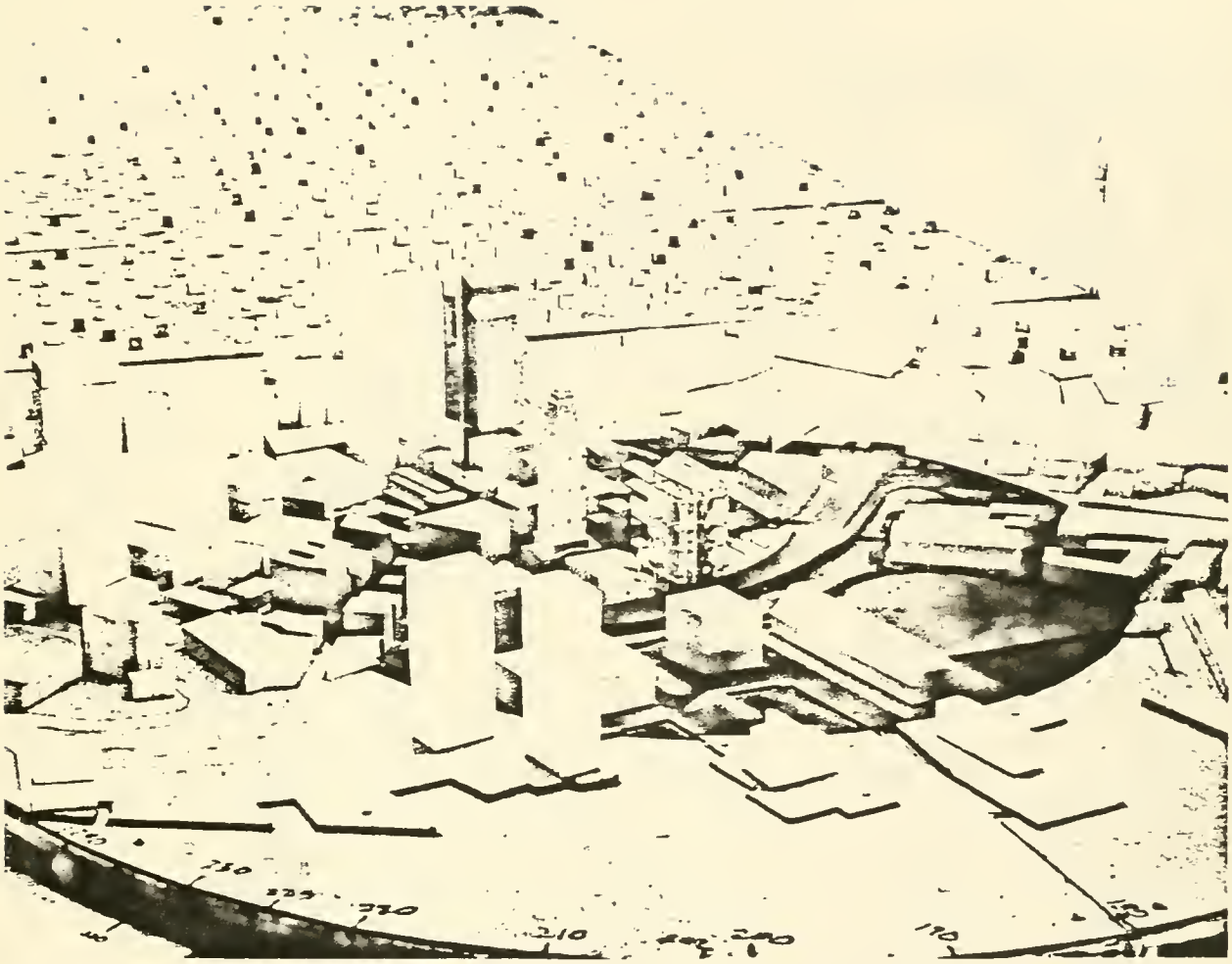
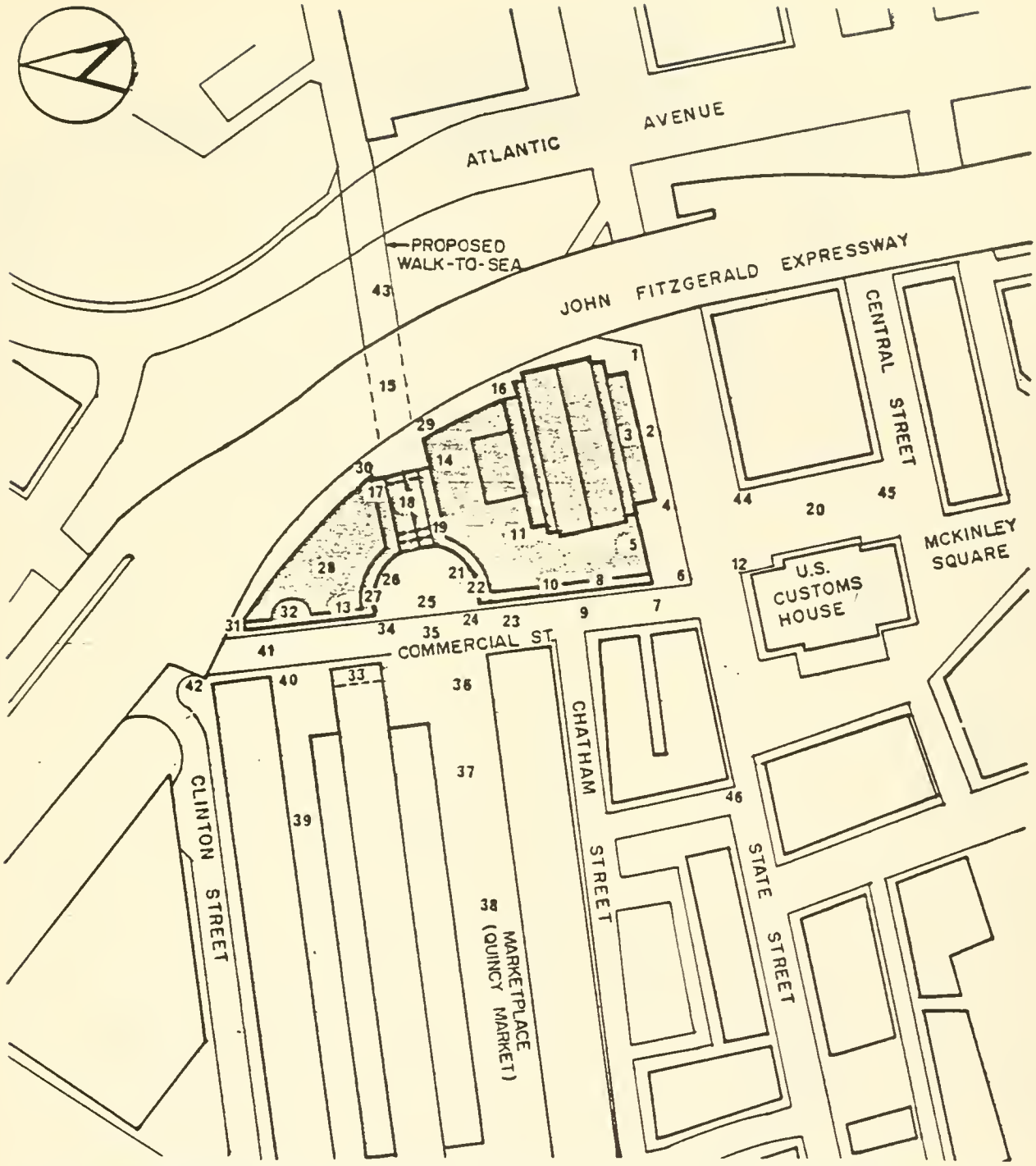


FIGURE 1
TEST MODEL OF MARKETPLACE DEVELOPMENT
BOSTON, MASSACHUSETTS



NOTE: NUMBERS INDICATE THE GENERAL LOCATION OF THE WIND SPEED MEASUREMENTS AT GRADE EXCEPT LOCATIONS 11, 14, & 28

LEGEND:

PROPOSED MARKETPLACE CENTER

FIGURE 2

LOCATIONS OF RELATIVE WIND SPEED MEASUREMENTS

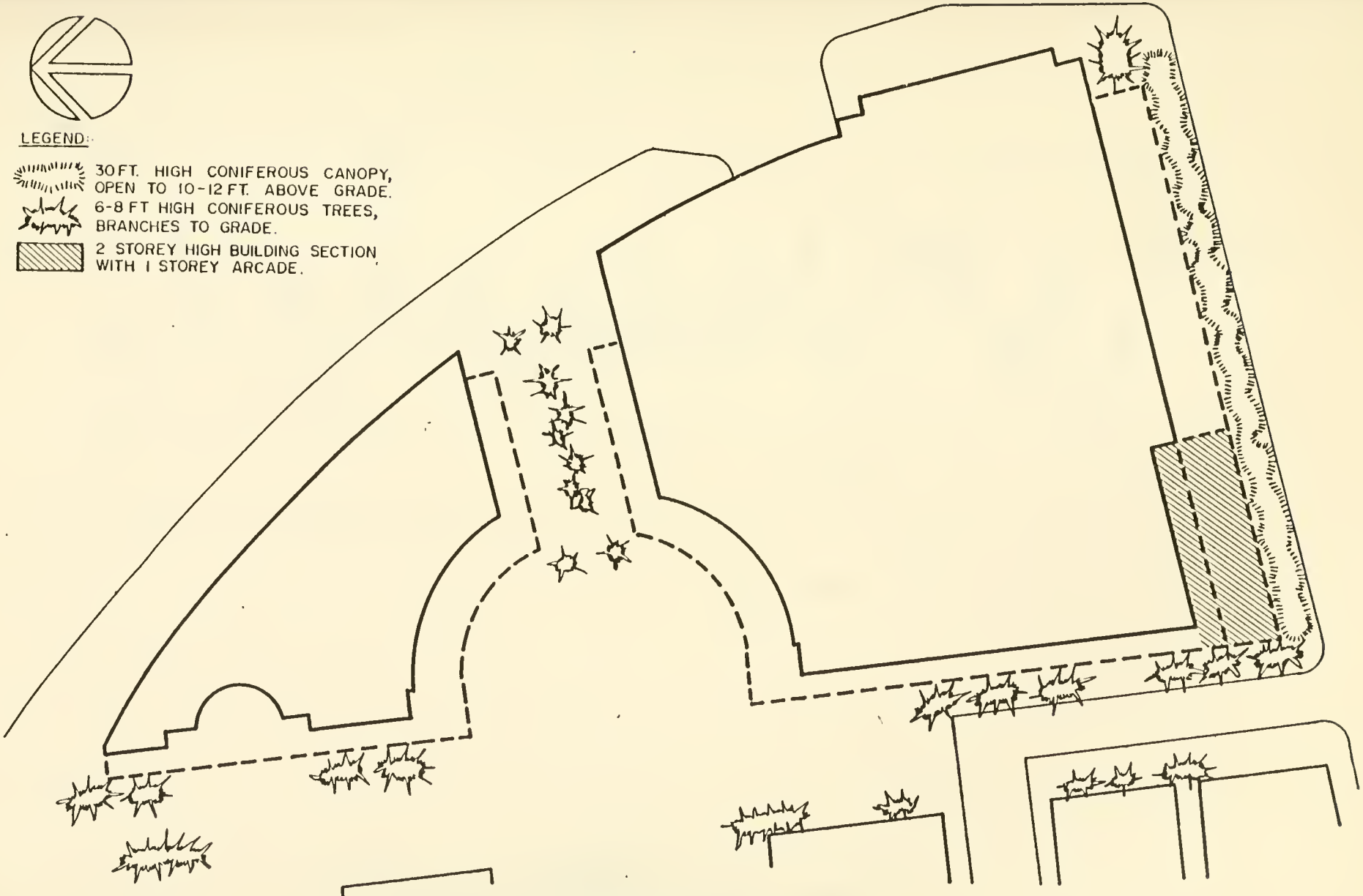


FIGURE 3

REMEDIAL SOLUTIONS TO CONTROL PEDESTRIAN LEVEL WINDS

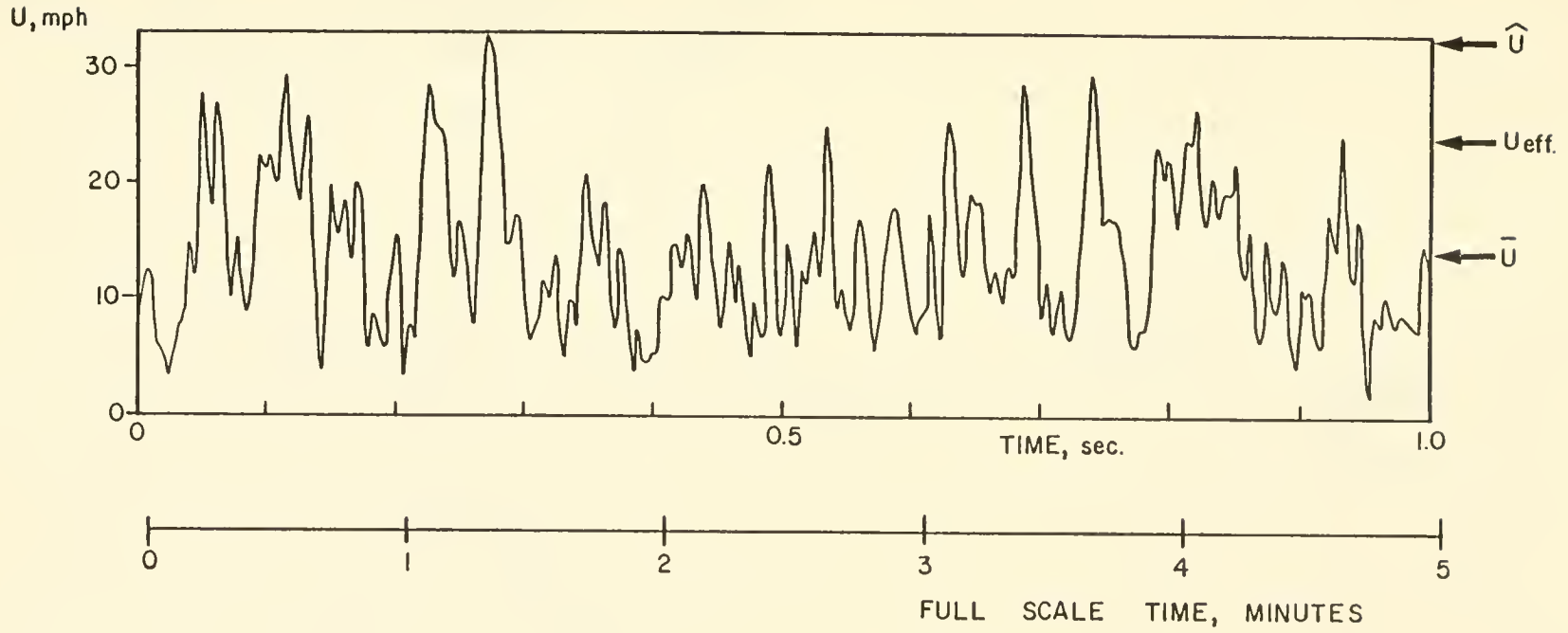


FIGURE 4
TYPICAL TIME HISTORY OF WIND SPEED
MEASURED IN THE WIND TUNNEL

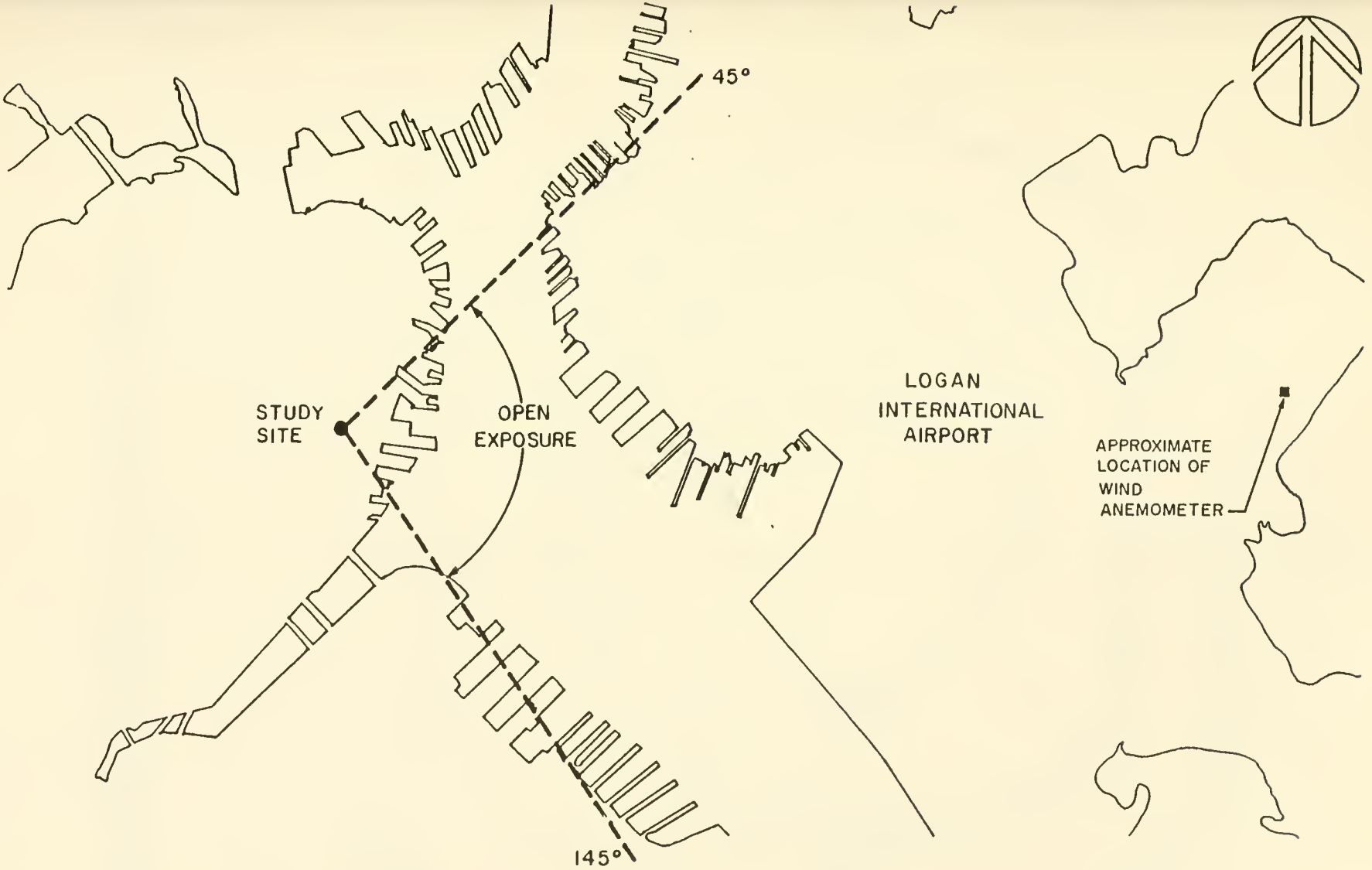


FIGURE 5

MAP SHOWING LOCATION OF SITE AND AIRPORT

SCALE = APPROX. 1:26600

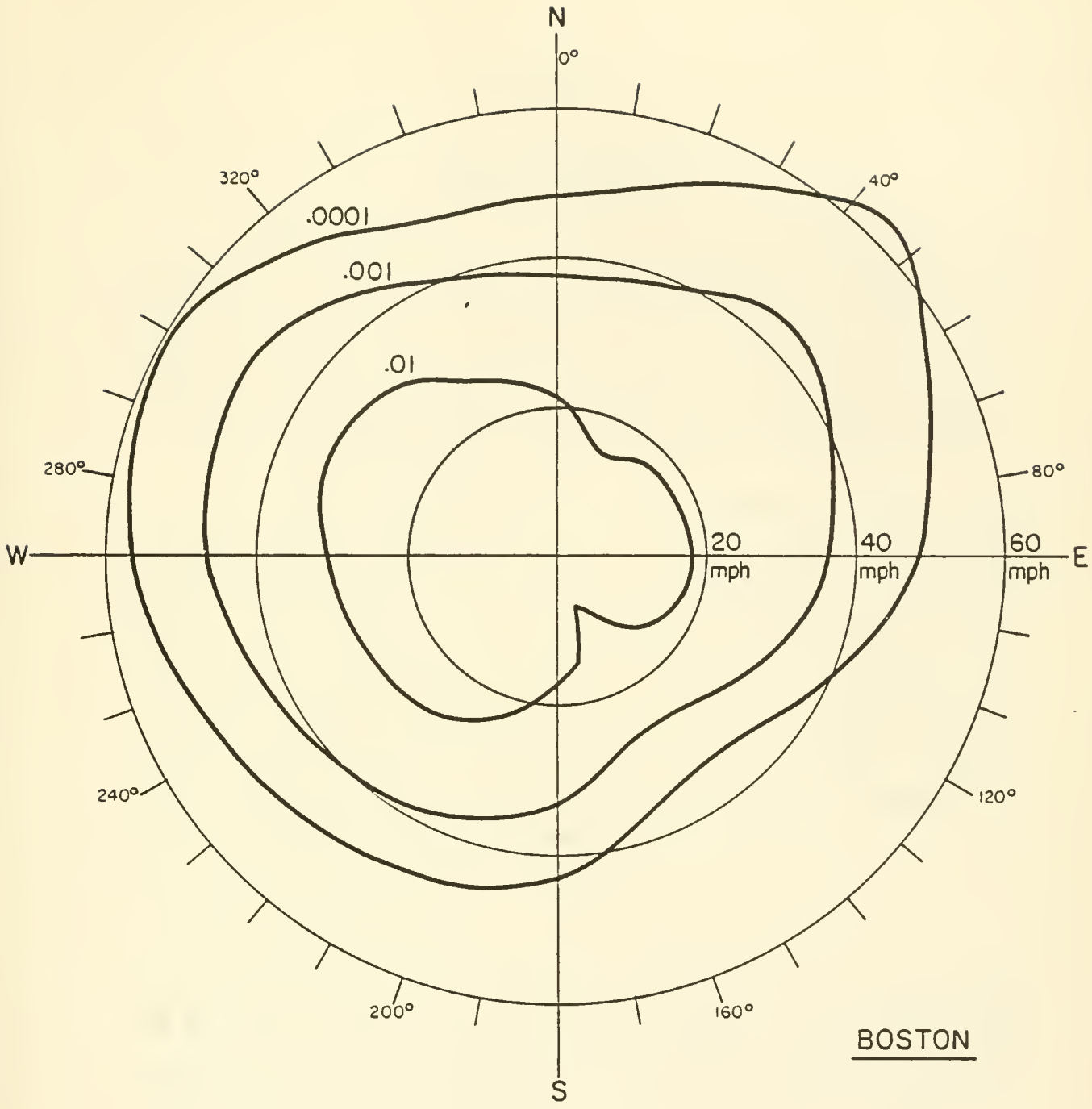


FIGURE 6
CONTOURS OF PROBABILITY OF GRADIENT WIND SPEEDS
BEING EXCEEDED IN A 10 DEGREE SECTOR

Appendix A

COMFORT CRITERIA

Comfort criteria have come to be expressed in the form of wind conditions which should not be exceeded for more than a certain fraction of the time and this is the approach used in the present report. It recognizes that high wind speeds are bound to occur at some time or other but can be tolerated provided they do not occur too often.

The wind conditions at a particular location at pedestrian level consist of a mean wind speed (averaged over about an hour) and fluctuations about the mean during gusts and lulls. This is illustrated in Figure 4 of the main text. For simplicity it is desirable to characterize a given wind condition by a single speed. Often the mean value, $\bar{U}$, averaged over a period of about an hour is used as the characteristic speed. Another choice, which allows some recognition of the effect of gustiness on people, is the 'effective gust speed' defined as

$$U_{eff} = \bar{U} + k\sigma_u$$

where σ_u = root-mean-square value of the wind speed fluctuations and k is a constant taken here to have the value 1.5. Various values of k have been proposed ranging from 1.0 to 4.0. The value 1.5 has been put forward by Isyumov and Davenport[1] as having the merit that it makes U_{eff} in urban surroundings roughly equivalent to the mean hourly speed in the less gusty, open country conditions to which the well known Beaufort scale refers. A third choice, which also has some merit, is the peak gust speed, $\hat{U}$, that occurs on average about once every

five minutes while the particular wind conditions last. In an urban situation, this peak gust speed will typically be about double the mean speed and the effective gust speed will be about 1.5 times the mean although these ratios are quite variable. Whatever method is used to define the wind conditions, it is important to be clear which characteristic wind speed is being referred to when discussing comfort criteria.

The formulation of the comfort criteria used in this report is based on that of Melbourne[2] who proposed a compact mathematical way of expressing the criteria. The fraction of the time that a particular wind condition is permissible is denoted by P. It is then related to the characteristic wind speed describing the wind conditions, here taken as U_{eff}, by

$$P = e^{-\left(U_{eff/C}\right)^2} \qquad A1$$

where C is a constant. The value of C is given specific values for specific pedestrian areas such as routes used only occasionally, frequently used walking routes, plazas and parks where people will stroll or stand, and outdoor restaurants where clientele will sit for extended periods. In winter, lower wind speeds are desirable and so C is changed such as to reduce the wind speed criteria by the equivalent of one Beaufort number (after Davenport[3]). The present values of C are given in the following table.

Activity	Value of C in m.p.h. (based on effective gust speed) Summer	Winter
Walking (occasional use)	14.4	10.7
Walking	10.1	7.4
Standing, strolling	8.1	6.0
Lounging, sitting	6.4	4.4

From the summer C values in the above table, the wind speed criteria given in Table 2 of the main text were calculated.

The highest effective gust, 38 m.p.h., in Table 2 (for 0.1% of the time) is a hazardous condition. Various data on the onset of hazardous conditions are available. Melbourne & Joubert[4] reported two girls being blown over by a peak gust of 51 m.p.h. which converts to an effective gust of about 38 m.p.h. Penwarden[5] reported the cases of two elderly women dying due to injuries sustained in winds with peak gusts of 56 m.p.h. which converts to an effective gust of about 42 m.p.h. Cohen et al[6] reported a strongly built man being blown over in winds gusting to peaks of 60 m.p.h. which converts to an effective gust of 45 m.p.h. Murakami et al[7] have given data showing people having difficulty, but not quite being blown over, by peak gust speeds of between 34 m.p.h. and 45 m.p.h. which converts to an effective gust range of

25 m.p.h. to 34 m.p.h. The land Beaufort scale characterizes winds with effective gust speeds in the range 31 to 37 m.p.h. as "generally impeding progress". Thus, the 38 m.p.h. for .1% of time 'hazard limit' is reasonable. It is worth noting that 0.1% of the time corresponds to about once a year during daylight hours.

The foregoing expression for P, Equation A1 , can be plotted as a straight line on appropriate graph paper (loglog on the probability scale, log on the U_{eff} scale). The curve for U_{eff} versus P found in the model study for each location can be added to the plot and a simple assessment made of how well the criteria are satisfied.

The attached Figure shows an example of this form of presentation for a hypothetical location 'X' on a site. The top edge of each of the shaded bands on these plots is the comfort criterion as given by Equation A1. The four shaded bands correspond to the above four categories of pedestrian usage (walking (occasional use), walking, standing or strolling, lounging or sitting), and are labelled accordingly. The upper plot shows summer criteria and the lower plot winter criteria. The horizontal scale is probability, or the fraction of time that the wind conditions occur. It is also helpful to relate probability to frequency of occurrence. Therefore the weekly, monthly and seasonal frequencies of occurrence are shown on the plots also. These represent the frequency of occurrence during daylight hours only since most pedestrian areas have few people in them during the night. In the example shown the location 'X' is situated on a walkway at the hypothetical site; consequently, wind speeds not exceeding the shaded band labelled 'walking'

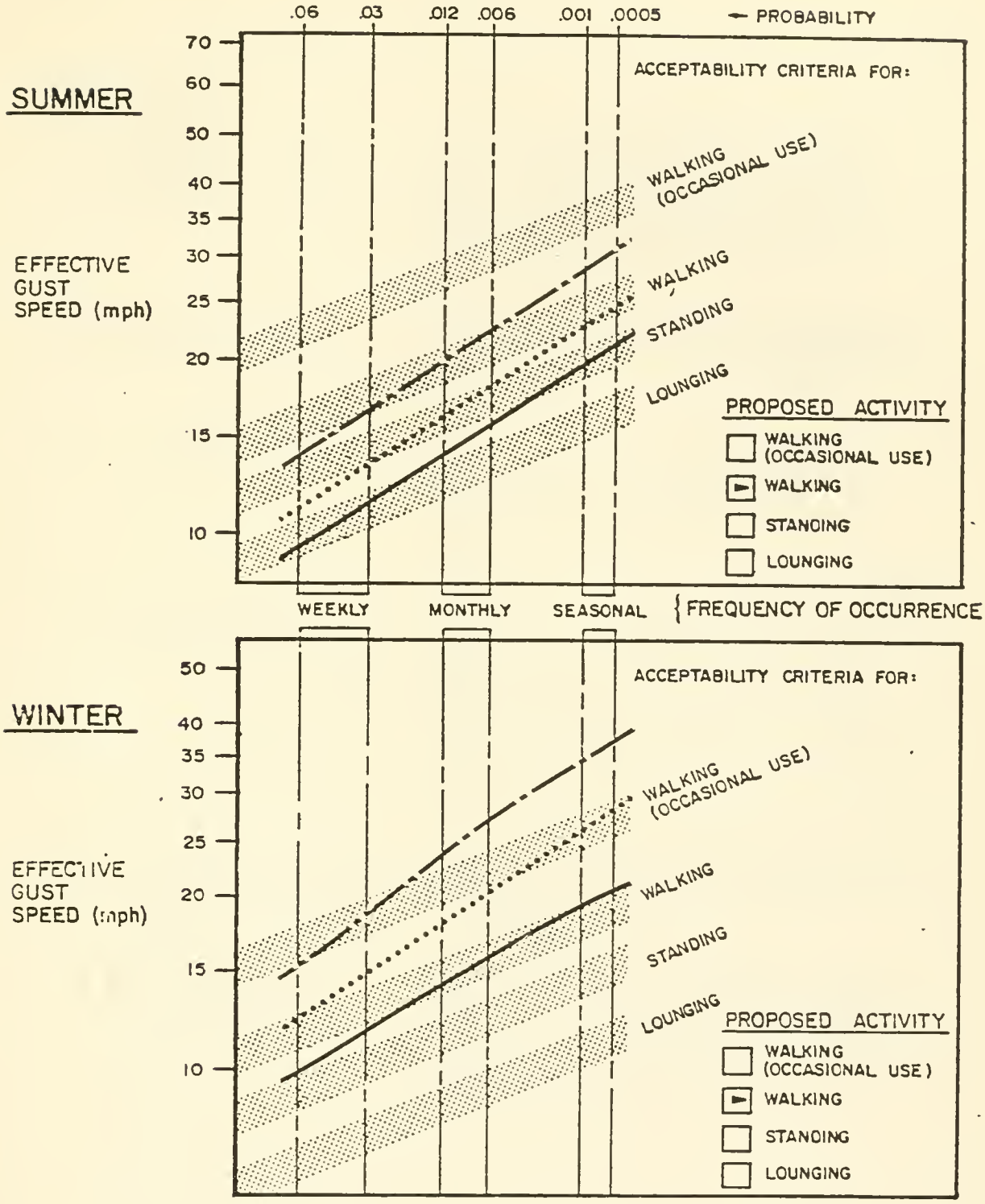
are desirable. The three curves shown on each plot are typical predictions resulting from a wind tunnel study for the three site configurations: (i) before construction of the proposed development; (ii) after construction; and (iii) after construction and with recommended remedial solutions to wind comfort problems.

It can be seen in the plot for summer (upper plot), that the curve for before construction conditions falls below the shaded band labelled walking thus showing acceptable conditions. The curve for after construction straddles the top of the walking band indicating less comfortable conditions on the borderline of acceptability. The curve for remedial measures in place indicates wind speeds lower than before construction and well below the walking band, showing that this location would be comfortable for walking in summer.

The lower plot illustrates the results for winter. The before construction curve lies above the shaded band labelled walking (which has been moved downwards relative to the summer plot) indicating uncomfortable conditions. After construction, the curve is moved even higher making this location uncomfortable even for occasional use in winter. However, the curve for remedial solutions in place is down to below the top of the band labelled walking. Thus pedestrians could expect comfortable wind conditions in winter when the remedial solutions are implemented.

Appendix G gives plots such as those described here for all the locations examined in the present study. In the main text the summer criteria are used and no distinction is made between winter and summer conditions.

EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (X)



References:

1) Isyumov, N. and Davenport, A.G. "The Ground Level Wind Environment in Built Up Areas", Proceedings of the Fourth International Conference on Wind Effects on Building and Structures, Heathrow England, 1975.

2) Melbourne, W.H. "Criteria for Environmental Wind Conditions", Journal of Industrial Aerodynamics, 3, (1978), pp.241-249.

3) Davenport, A.G. "An Approach to Human Comfort Criteria for Environmental Wind Conditions", Colloquim on Building Climatology, Stockholm, 1972.

4) Melbourne, W.H. and Joubert, P.N. "Problems of Wind Flow at the Base of Tall Buildings", Proc. 3rd International Conference on Wind Effects on Buildings and Structures, Tokyo, 1971, pp.105-114.

5) Penwarden, A.D. "Acceptable Wind Speeds in Towns" Building Science, 8, 1973, pp.259-167.

6) Cohen, H., McLaren,T., Mass,S. Petyk,R. and Zube,E. "Pedestrians and Wind in the Urban Environment", University of Massachusetts Report, UMASS/IME/R-77/13, December 1977.

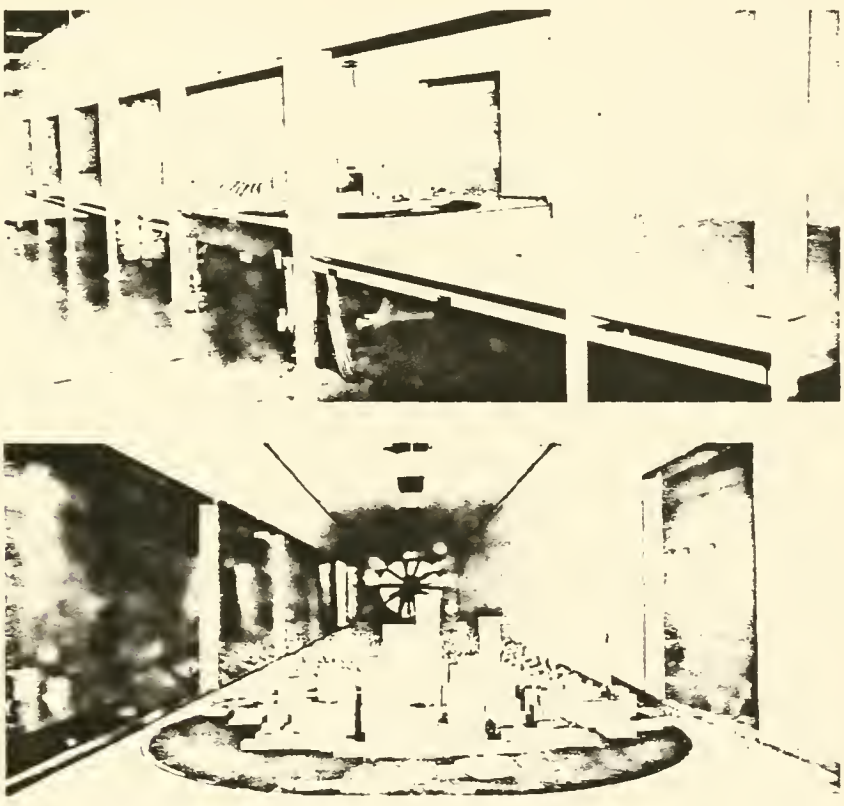
7) Murakami, S., Vehara, K. and Deguchi, K. "Wind Effects on Pedestrians: New Criteria based on Outdoor Observations of Over 2000 Persons", Proceedings of Fifth International Conference on Wind Engineering, Fort Collins, Colo., 1979.

Appendix B

GUELPH BOUNDARY LAYER WIND TUNNEL FACILITY

Morrison, Hershfield, Theakston and Rowan, Limited designed and built the boundary layer wind tunnel for its Guelph laboratory incorporating special features for the purpose of simulating turbulent atmospheric winds. The wind tunnel flow can be adjusted to represent winds which approach over terrain ranging from open flatland to downtown urban areas. The model of the study site, which is mounted on a turntable, can be rotated to study the effects of winds approaching from any direction.

Data acquisition and analysis is performed by the tunnel's computer system. In support of the wind tunnel there is extensive instrumentation including pressure sampling equipment, hot-wire anemometers, strain gauge instrumentation, accelerometers, force balances, tracer gas samplers and smoke generation apparatus.



WIND TUNNEL SPECIFICATIONS

Type:	Blow Through, Open Return	
Motor:	112 kw (150 HP) variable speed	
Fan:	2.1 m (7 ft) Dia., variable pitch, axial flow	
Working Section Dimension:	Width	2.4 m (8 ft)
	Height	Adjustable, 1.8m to 2.3m (6ft to 7.5ft)
	Length	17 m (57 ft)
Tunnel Wind Speed Range:	0 to 21 m/s (0 to 70 ft/sec)	
Test Stage:	2.4 m (8 ft) Dia. motor driven turntable	

APPENDIX C

WIND SIMULATION

The winds approaching the study site, for the purposes of wind tunnel modelling, were divided into two categories for the different wind directions:

Type	Azimuth (Degrees from true North)
Smooth, ANSI Exposure C	50° - 140°
Suburban, ANSI Exposure B	150° - 350°, 0° - 40°

The vertical variation of mean velocity and turbulence intensity corresponding to these exposures was achieved in the boundary layer wind tunnel by use of artificial roughness and turbulence generators placed on the floor upwind of the test model.

The mean velocity and turbulence intensity profiles are shown in figures C1 to C4. In addition to the mean velocity and turbulence intensity profiles it is also important to ensure that the length scale of the turbulence is correct in relation to the model scale. Measurements of the power spectrum of the longitudinal turbulence intensity have shown the turbulence in the wind simulations used in the present work to be at the correct 1:500 scale, the same as for the model.

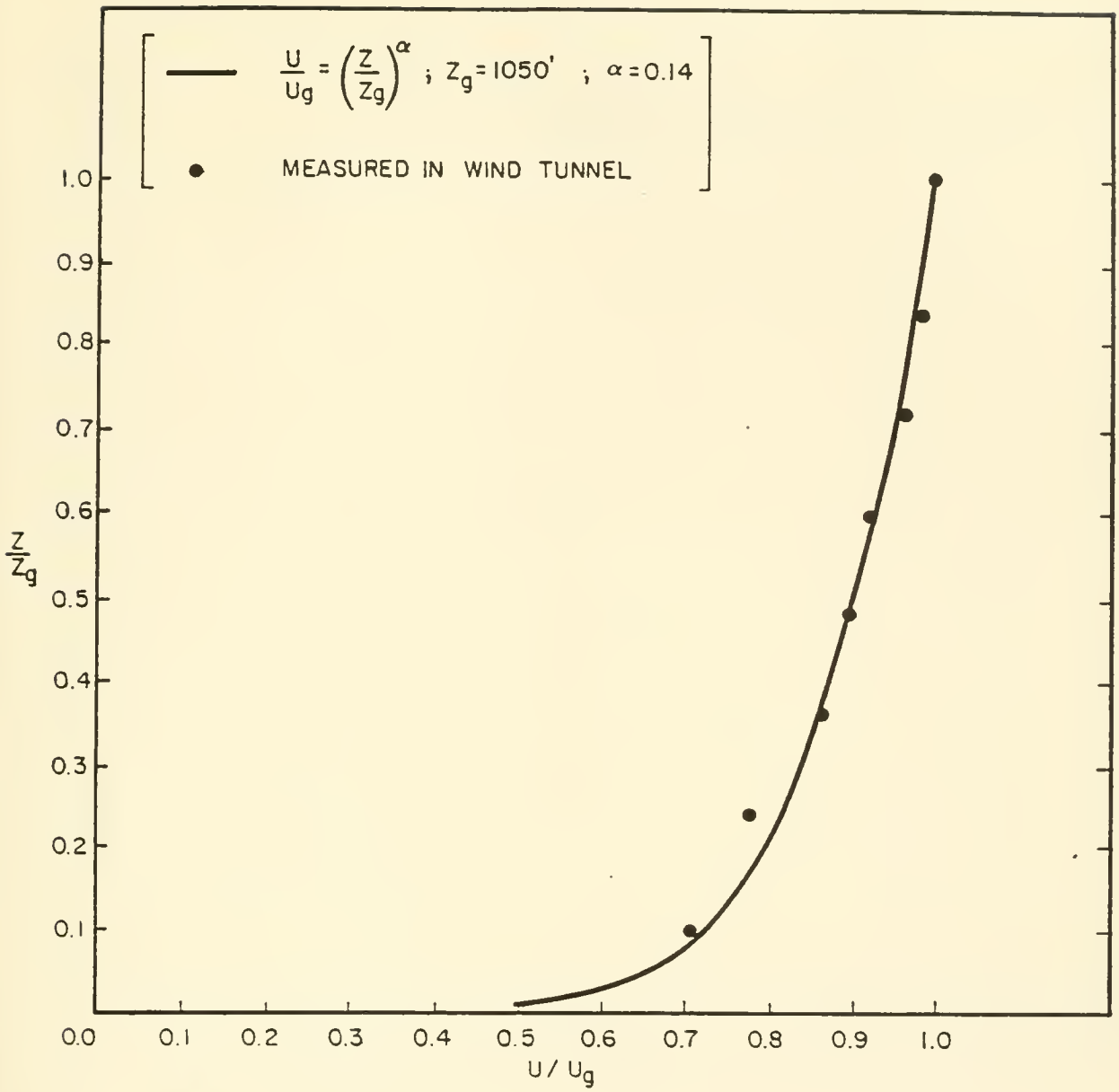


FIGURE C1

SIMULATED MEAN VELOCITY PROFILE

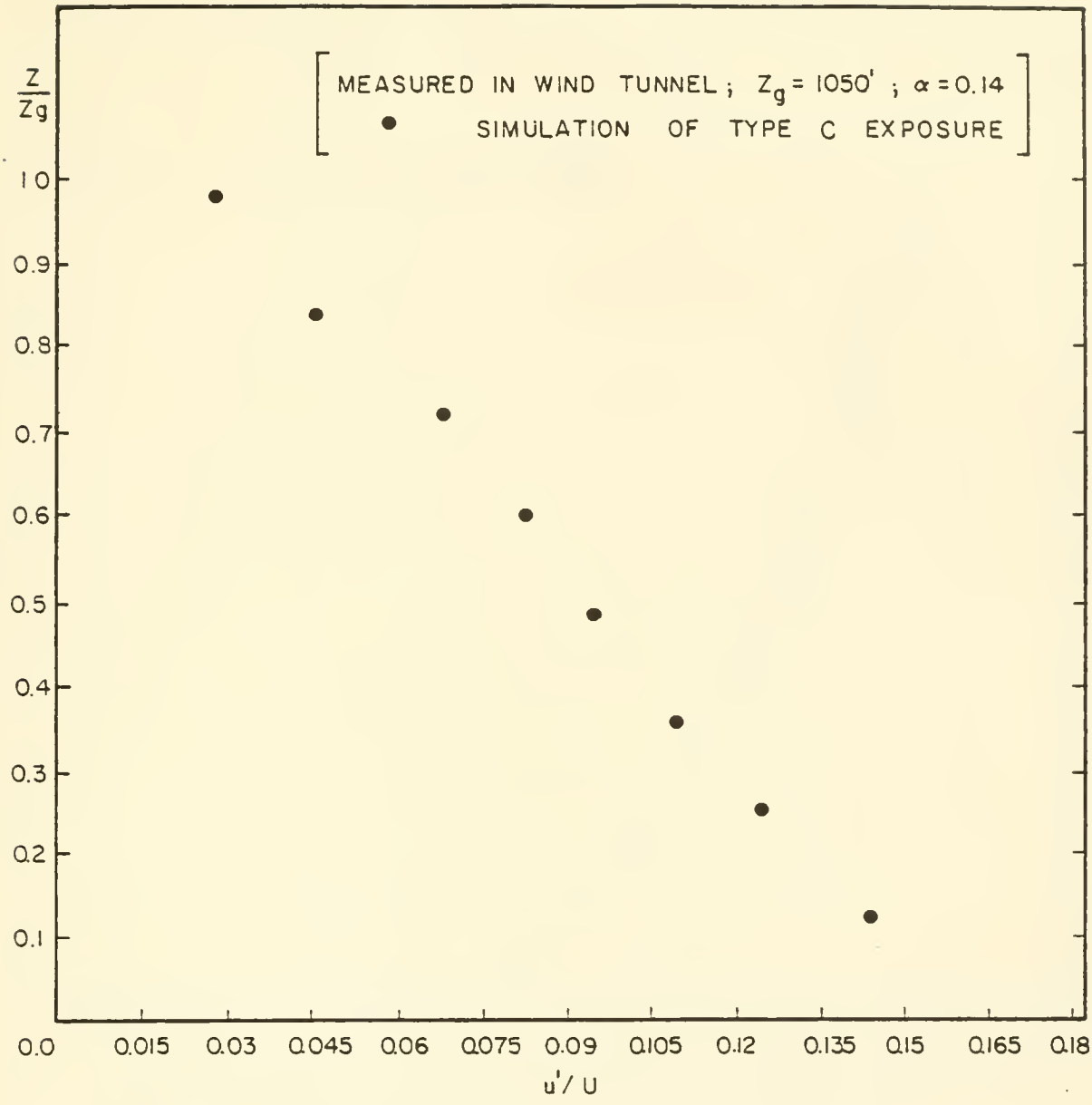


FIGURE C2
SIMULATED LONGITUDINAL TURBULENCE INTENSITY PROFILE

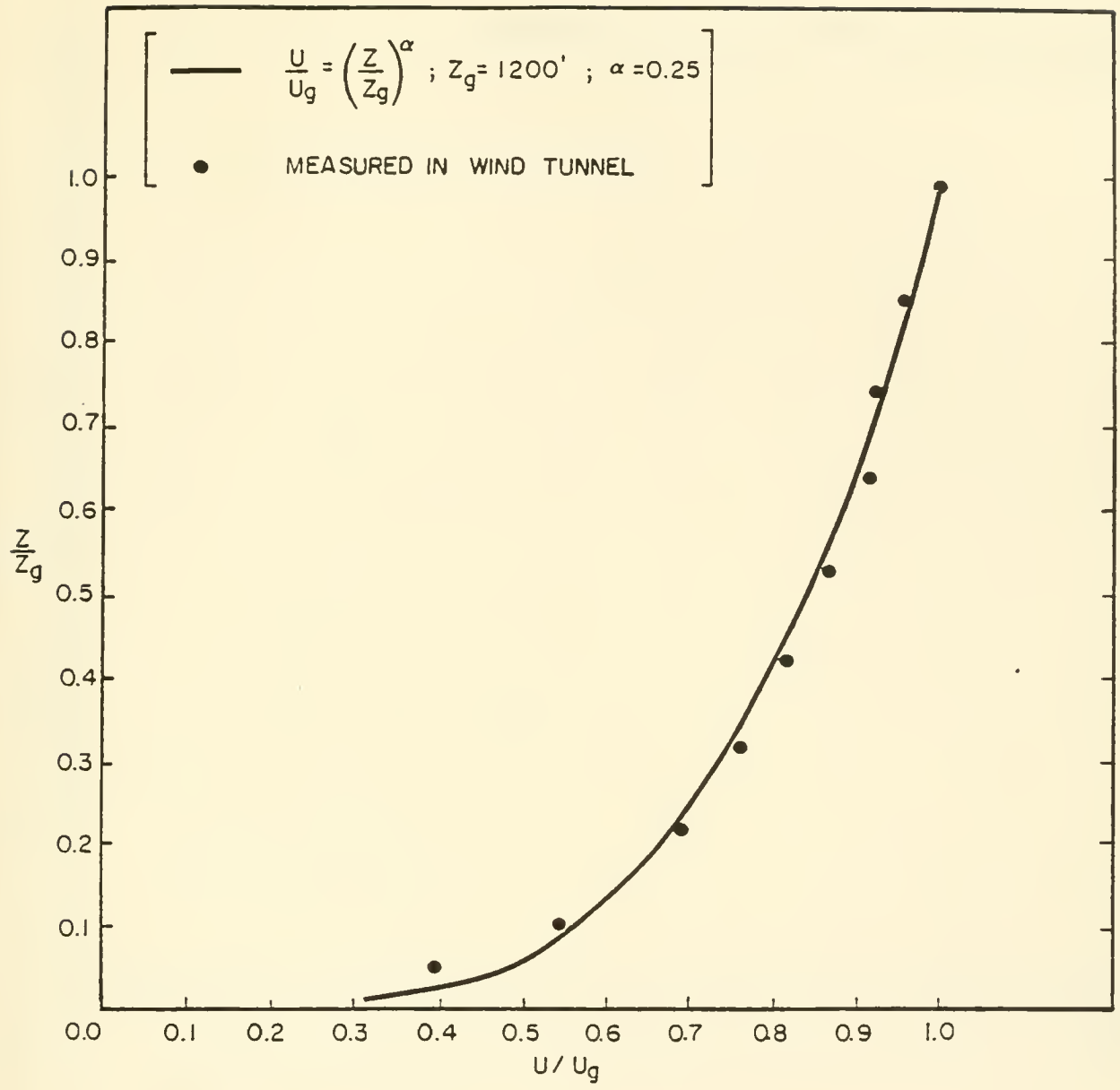


FIGURE C3

SIMULATED MEAN VELOCITY PROFILE

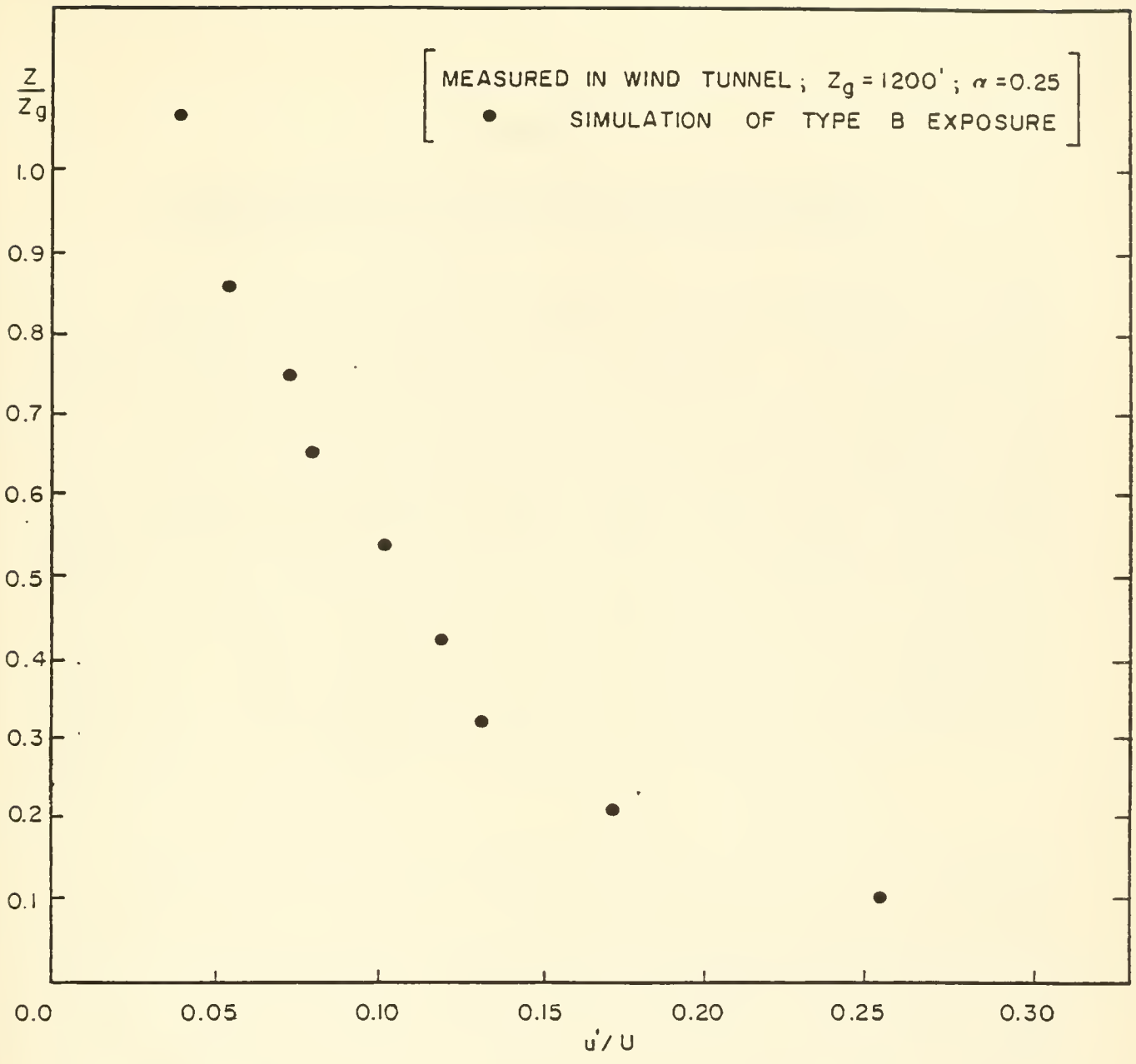


FIGURE C4

SIMULATED LONGITUDINAL TURBULENCE INTENSITY PROFILE

APPENDIX D

AN OMNIDIRECTIONAL PEDESTRIAN LEVEL WIND SENSOR

For pedestrian level wind studies, it is necessary to make wind speed measurements a fraction of an inch above the model street surface at a large number of locations. For this purpose it is desirable to have a robust, economical wind speed sensor with a fixed calibration that does not require alignment with the wind and it was with these requirements in mind that the Omnidirectional Pedestrian Level Wind Sensor was developed. Because of its special characteristics it is usually possible to cover many more locations with this device than with hot wire or hot film methods that have often been used in wind environment studies. Full details of its principal of operation, calibration and frequency response are given in Reference 1. The following paragraphs give a brief description of its main features.

Figure D1 shows the geometry of the surface wind sensor. It consists of a hole of diameter, D (0.1015"), in the street surface, out of the centre of which protrudes a tube of external diameter, d (0.067"). The tube protrudes to a height of, h (0.157", 1:500 scale height of approximately 6 ft.), above the model surface and the top of the tube is flat. The sensor tubes are connected by tubing to two $\pm$ 0.1 psi range pressure transducers in order to record pressures within the sensor. The pressure transducers are mounted in scanivalves which enable measurements to be obtained from a series of wind speed sensors in sequence.

The mode of operation of the surface wind sensor can be summarized as follows. The instantaneous excess pressure Δp at

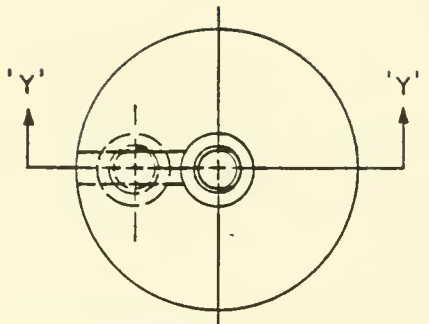
the bottom of the sensor (pressure tap A) over that at the top of the sensor tube is measured by the pressure transducers. From Δp the wind speed at a full scale height of 6 ft. above the surface is calculated using an appropriate calibration formula. the speed is measured over a period equal to about one hour at full scale and the average root-mean-square and peak gust values are evaluated.

In Reference 1, experiments were performed in which a vertical hot wire was positioned directly above the omnidirectional pedestrian level wind sensor in order to test the validity of the measurements recorded by the wind sensor. These tests showed that the hot wire data and the omnidirectional sensor gave essentially identical results. Since its initial development and publication, the omnidirectional sensor has been adopted at a number of laboratories in North America and Europe.

References

1) P. A. Irwin, "A Simple Omnidirectional Sensor for Wind Tunnel Studies of Pedestrian Level Wind", Journal of Wind Engineering and Industrial Aerodynamics, 7 (1981) 219-239.

PLAN VIEW



SECTION 'YY'

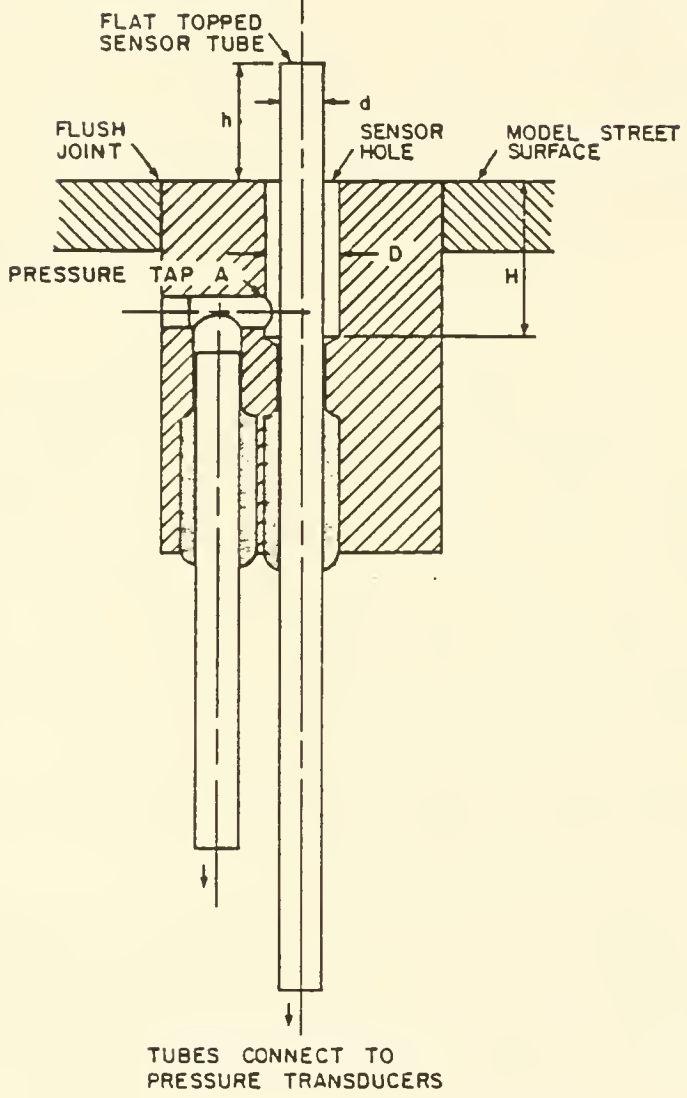


FIGURE D1

OMNIDIRECTIONAL WIND SENSOR

APPROX. SCALE : 4/1

APPENDIX E

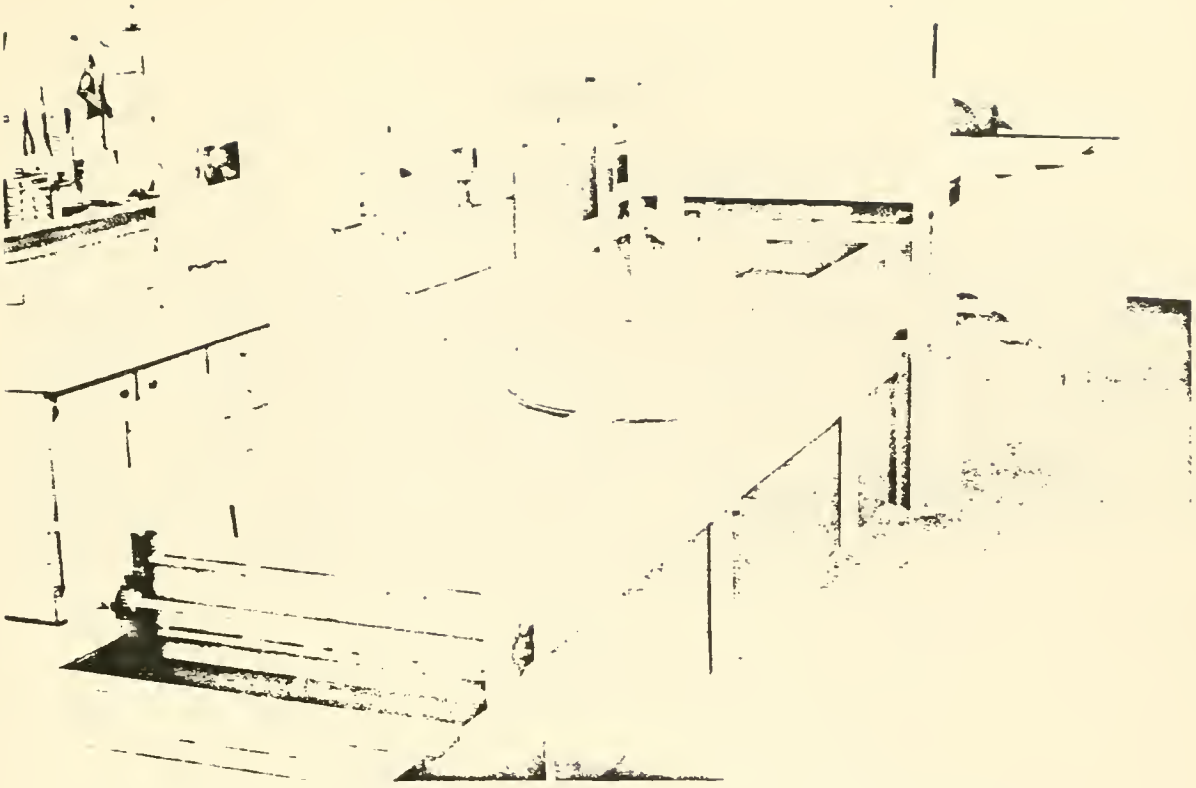
WATER FLUME - WIND AND SNOW SIMULATOR

The water flume consists of a 1.2m wide, 38cm deep open channel through which water flows. A scaled model of the area to be studied, for either the effects of wind or drifting snow, is placed on the floor of the water channel and the water is allowed to flow over the model. The water flow can then be adjusted to obtain simulation of the atmospheric wind flow around the scaled model.

The water flow around the model can be easily visualized by introducing a coloured dye into the water. The good flow visualization properties of the water flume make it an ideal design tool. Personnel directly involved with the project design are able to clearly see the wind flows around their proposed project by participating in the study at our laboratory. This makes for an easy understanding of the wind and drifting snow problems. Also, as the models are easily accessible during the tests, the effects of rearranging the components of a project or the adding of control devices can be clearly observed and optimum solutions readily determined.

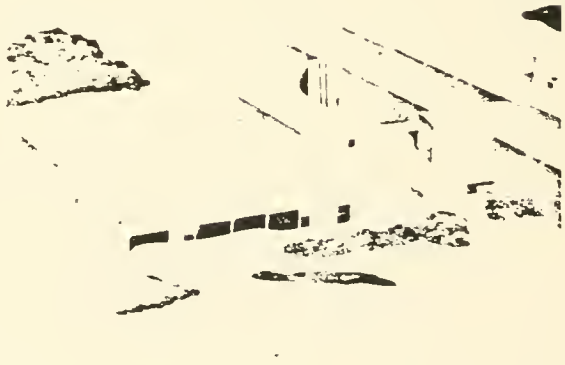
The method used to study the effects of drifting snow is to introduce a fine white silica sand into the water to represent the snow and the moving water carries and deposits the sand as wind carries and deposits snow. The wind speed at any point within the study area is determined by measuring the water speed at the point of interest on the model.

In addition to the study of wind and drifting snow, the water flume technique is suitable for the study of other wind-blown particles such as drifting sand, coal dust, etc.



WATER FLUME - WIND AND SNOW SIMULATOR

SIMULATED WIND FLOW VISUALIZED WITH DYE



TYPICAL SIMULATED SNOWDRIFT PATTERNS

APPENDIX F

WIND CLIMATE ANALYSIS

Wind data from an anemometer located at Logan International Airport were used to determine the frequency of occurrence of various wind speeds at anemometer height. The data, stored on magnetic tape, represented hourly observations of wind speed over a 35 year period from 1945 to 1981. Over this period, the anemometer height and location changed several times. The history of height variation is as follows:

Period	Anemometer Height (ft)
11/1/45 - 11/22/51	62
11/22/51 - 7/20/54	34
7/20/54 - 8/23/57	75
8/23/57 - 12/5/63	33
12/5/63 - present	22

The wind speed observations were scaled to a common reference height, gradient height. This scaling used a power law of the form:

$$\frac{U_G}{U_A} = \left(\frac{Z_G}{Z_A}\right)^{\alpha}$$

here U_G is wind speed at gradient height Z_G
U_A is wind speed at anemometer height Z_A

Due to the presence of varying terrain around the airport measurement site, Z_G and α can be expected to vary with wind direction. To the east of the anemometer site the terrain is

extremely smooth since beyond the edge of the airport it is open water. To the west lie the built up areas of Boston and Cambridge but they are about two miles away and there are intervening stretches of smooth terrain and open water (Figure 5 of main text).

Based on the data given by Antonia and Luxton[1] on the effect of a change in surface roughness on a turbulent boundary layer, the value of α for winds from the land side of the anemometer was estimated to be .17. Thus the values of assumed in the analysis were:-

Azimuth Range (inclusive)	Z_G (ft)	α	Upwind Terrain
60° to 210°	900	.14	smooth, open
220° to 50°	975	.17	built up beyond 2 - 3 miles

At this point, it is useful to compare these assumptions with results of other researchers. Cohen et al[2] in a study of wind data from surface and elevated anemometer found an average value of α to be 0.15, for Z_G = 900 feet. Most of their data were for winds from the western half of the compass range. Surry and Davenport[3], using balloon data, showed similar wind speed scaling for westerly winds, but a significantly lower ratio of gradient to surface wind speed for easterly winds where the fetch is very smooth. The present results are, therefore, in reasonable agreement with these other analyses for westerly winds, and appear to be more conservative for easterlies.

Once the data were scaled as described, Weibull distributions were empirically fitted for 36 wind azimuths. These take the form:

$$P(>U_G) = A(\theta)e^{-(U_G/c(\theta))^{K(\theta)}}$$

where: -$P(>U_G)$ is the probability of exceeding gradient windspeed U_G within a 10 degree sector

-A, C, K are the Weibull coefficients for the wind azimuth sector centered at θ degrees.

A different set of A, C and K were obtained for each set of summer, winter and annual wind speed data.

To determine the probabilities of exceeding various wind speeds at the desired pedestrian level locations, the wind tunnel measurements of wind speed ratios (ratios of local speed to gradient speed) were used.

The summation took the form:

$$P(>U) = \sum_{\theta} A(\theta)e^{-(U(\theta)/R(\theta)C(\theta))^{K(\theta)}}$$

- $R(\theta)$ is the ratio of local to gradient wind speed, from wind tunnel measurements

for a series of assumed values of local wind speed U. The resulting points were plotted against the seasonal comfort criteria, and were also used to determine the value of U for specified values of P, i.e. 1% and 20%.

References

1) Antonia, R.A. and Luxton, R.E. "The response of a Turbulent Boundary Layer to a Stop Change in Surface Roughness, Part 2, Rough to Smooth", J.Fluid Mech. (1972), Vol.53 pp.737-757.

2) Cohen, H., McLaren,T., Moss, S.,Petyk,R., and Zube, E. "Pedestrian and Wind in the Urban Environment", University of Massachusetts Report UMASS/IME/R-77/13, Dec. 1977

3) Surry, D. and Davenport, A.G. "Modelling the Wind Climate" Workshop on Wind Climate, Ashville, N.C., Nov. 1979.

APPENDIX G

Figures G1 and G2 show the 46 measurement locations and the remedial measures developed in the study. They are the same as Figures 2 and 3 of the main text and are repeated here for convenient reference. Figures G3 through G20 give polar plots of the ratios of mean and effective gust speeds to gradient wind speed. The inner curves on these plots are for the mean speed and outer curves for the effective gust speed.

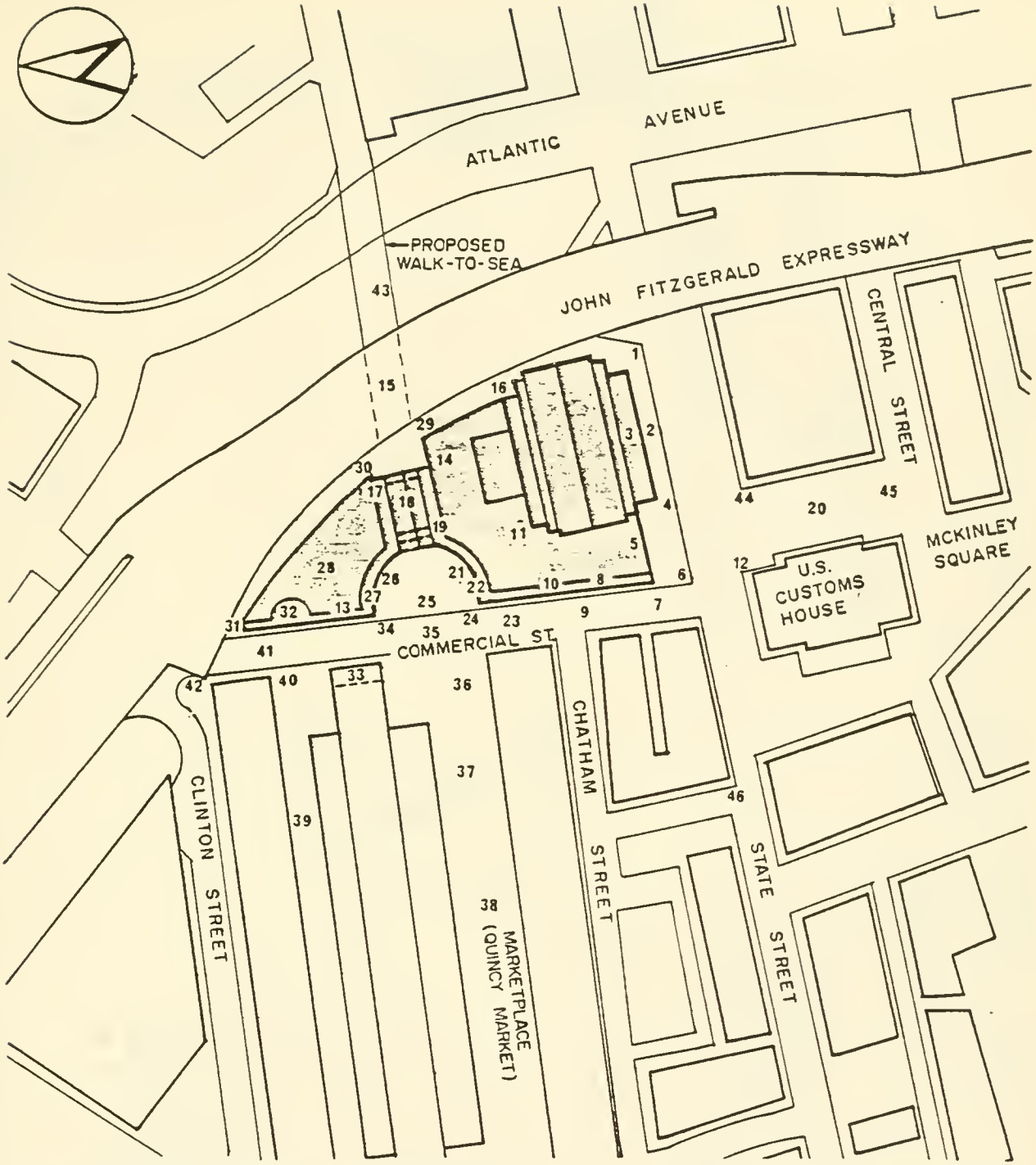
Following Figure G20 are comfort criteria plots for the various locations 1 to 46. The interpretation of these plots is explained in Appendix A. They give a detailed description of the wind conditions at each location for the no-build, build and build plus remedial solutions cases for the summer and winter seasons. The shaded bands in the plots represent the comfort criteria given in Appendix A and the curves give the probability and frequency of occurrence of various effective gust speeds based on the present tests and analysis. The horizontal scale is probability, or fraction of time, and the relation between probability and frequency of occurrence (weekly, monthly, seasonal) during daylight hours is also shown.

As an illustration of the effect of the project, for location 4 refer to the polar plots in Figures G3, G9 and G15. It can be seen that at location 4 in Figure G9 there is a lobe of high wind speed ratios for winds from the northwest quadrant which is not there in the existing conditions, Figure 3. The northwest quadrant is also a common wind direction so this results in adverse conditions at location 4. The effectiveness of the remedial solutions is shown in Figure G15 where the lobe in the northwest quadrant has been eliminated. Referring to the comfort criteria plots following Figure G20 it can be seen in the plot for location 4 that the before construction conditions in summer are suitable for standing and strolling but in winter

are only acceptable for occasional use. After construction of the proposed development it is only suitable for occasional use in summer and in winter is unacceptable even for that. In winter effective gust speeds exceeding 35 m.p.h. could be expected on a monthly basis with less severe speeds of less than 30 m.p.h. on a monthly basis in summer. When the remedial solutions shown in Figure G2 are implemented the wind conditions at location 4 can be seen in the comfort criteria plot to be greatly improved, being suitable for lounging in summer and being midway between the walking and walking (occasional use) bands in winter. However, an examination of the plot for location 12 shows that in winter the existing uncomfortable conditions would be made somewhat more uncomfortable.

As another example, the comfort criteria plot for location 25 in the semicircular plaza area on the site shows wind conditions suitable for lounging in summer when the remedial solutions are implemented. During winter the conditions are not quite comfortable for a heavily used walking area but are suitable for more occasional use. At location 36 the comfort criteria plot shows a worthwhile improvement in the Quincy Market area as a result of the new project in both summer and winter.

The remaining comfort criteria plots may be interpreted in a like fashion.



NOTE: NUMBERS INDICATE THE GENERAL LOCATION OF THE WIND SPEED MEASUREMENTS AT GRADE EXCEPT LOCATIONS 11. 14, & 28

LEGEND:

PROPOSED MARKETPLACE CENTER

FIGURE GI

LOCATIONS OF RELATIVE WIND SPEED MEASUREMENTS

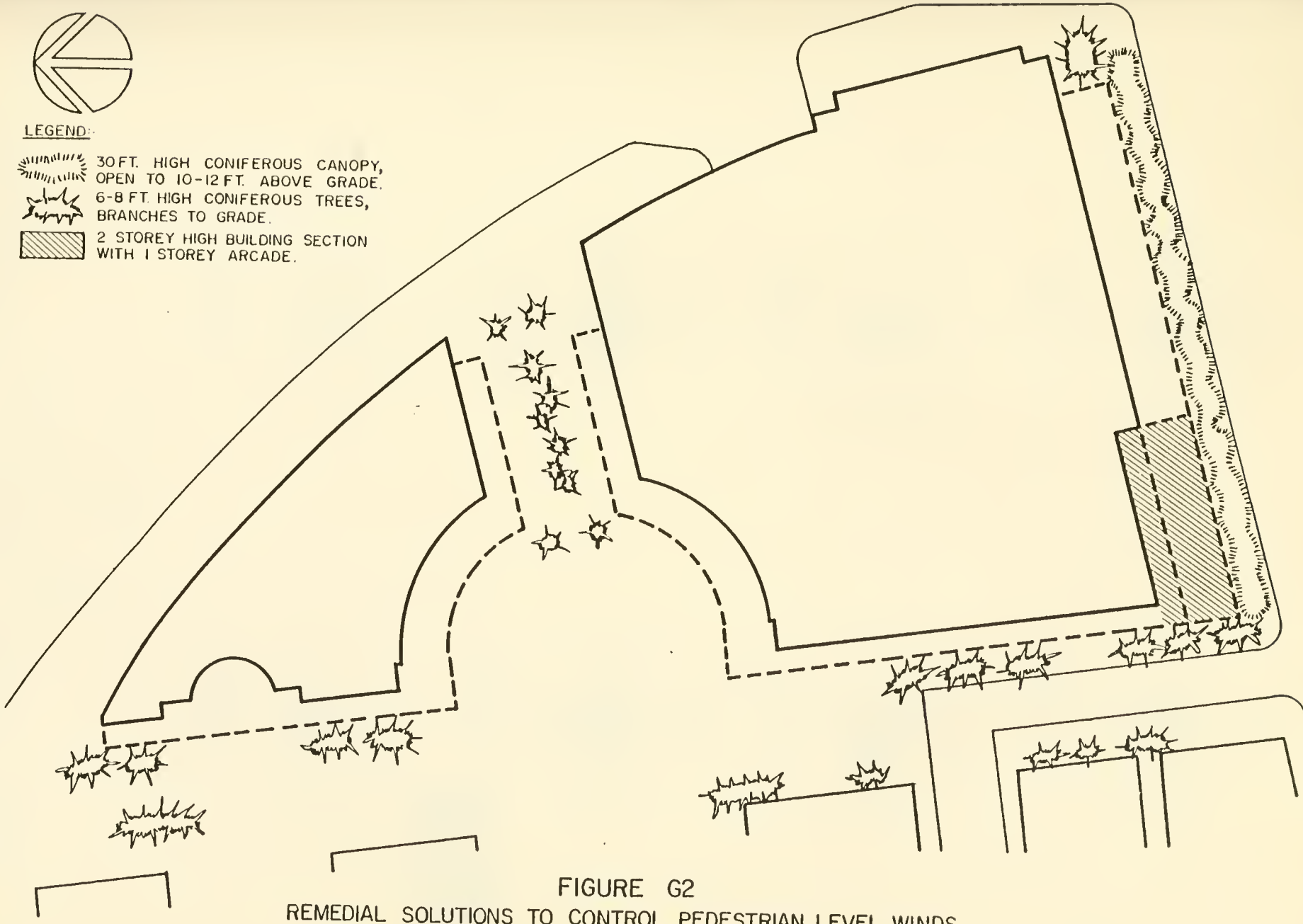


FIGURE G2

REMEDIAL SOLUTIONS TO CONTROL PEDESTRIAN LEVEL WINDS

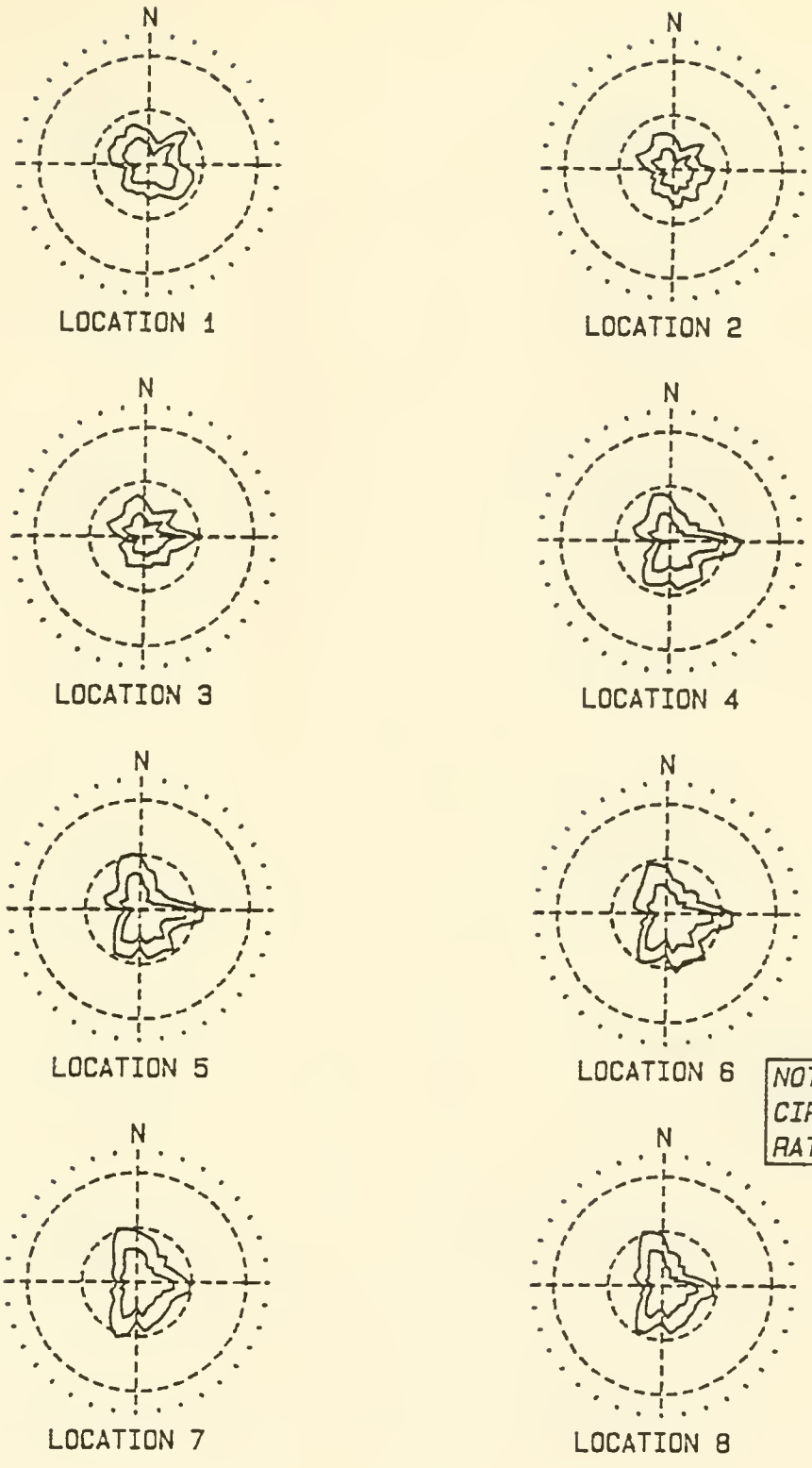
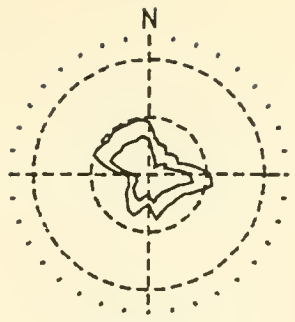
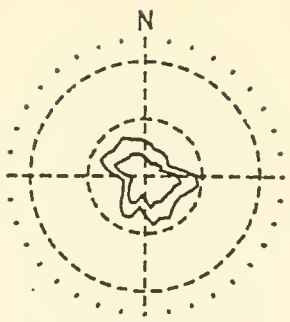


FIGURE G3

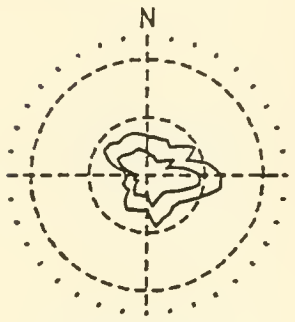
Ratios of Mean
and Effective Gust Speeds to Gradient Speed
MARKETPLACE - EXISTING CONDITIONS



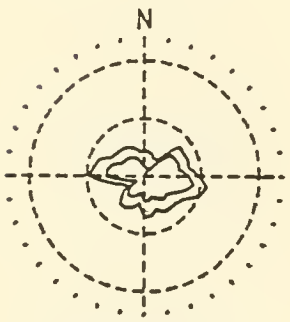
LOCATION 9



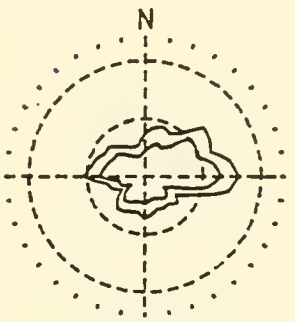
LOCATION 10



LOCATION 12



LOCATION 13



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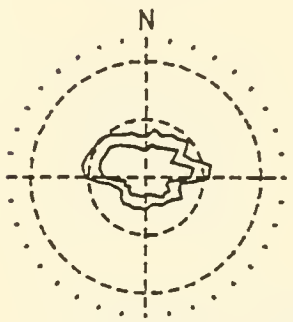
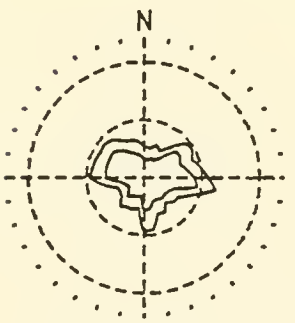
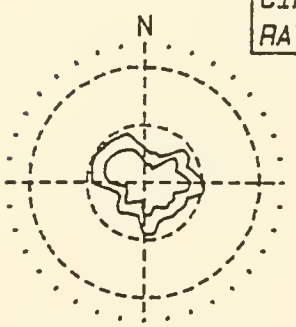


LOCATION 16

NOTE: OUTER CIRCLE REPRESENTS RATIO OF 1.0



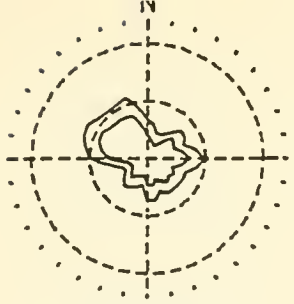
LOCATION 17



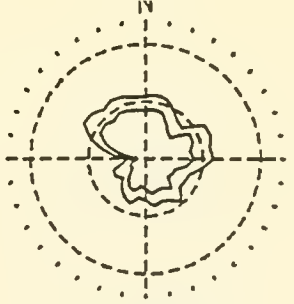
LOCATION 18

FIGURE G4

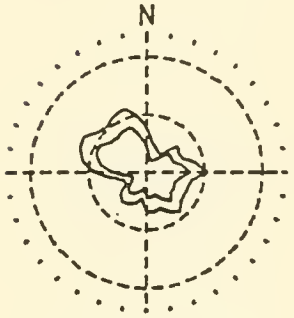
Ratios of Mean
and Effective Gust Speeds to Gradient Speed
MARKETPLACE - EXISTING CONDITIONS



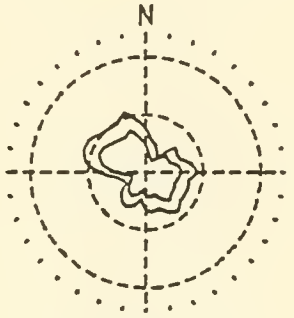
LOCATION 19



LOCATION 20



LOCATION 21



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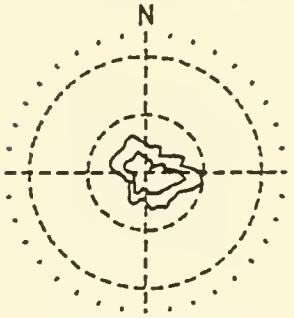

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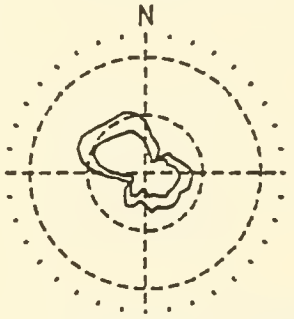
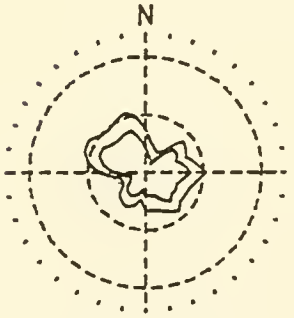


LOCATION 24

NOTE: OUTER CIRCLE REPRESENTS RATIO OF 1.0



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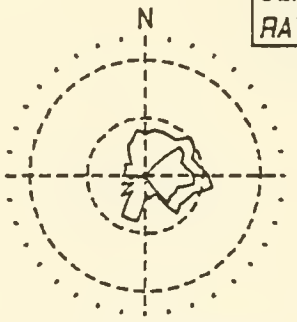
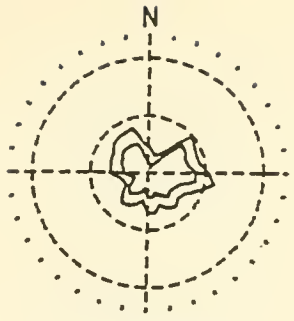


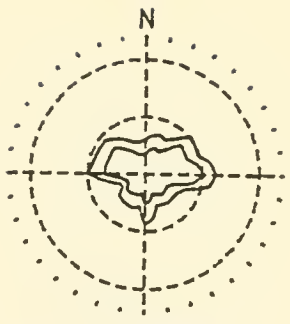
LOCATION 26

FIGURE G5

Ratios of Mean
and Effective Gust Speeds to Gradient Speed
MARKETPLACE - EXISTING CONDITIONS



LOCATION 27



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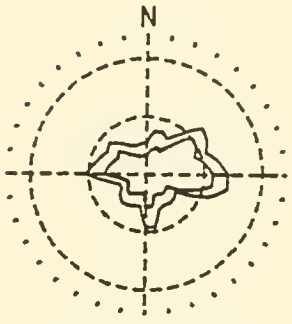
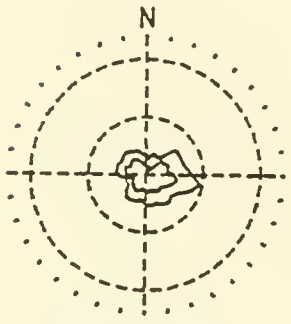


LOCATION 30



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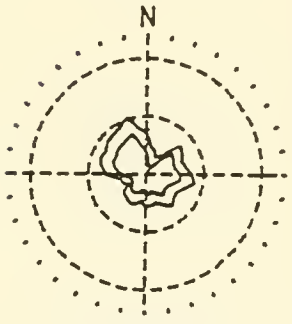

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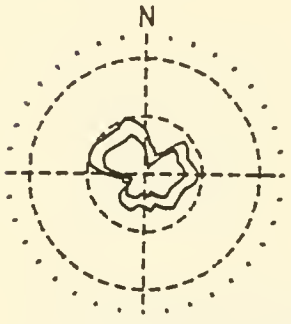
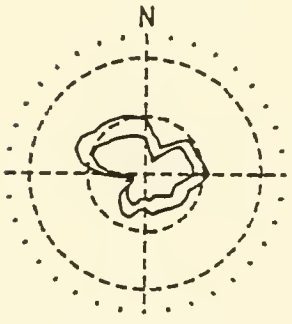


LOCATION 35

NOTE: OUTER CIRCLE REPRESENTS RATIO OF 1.0



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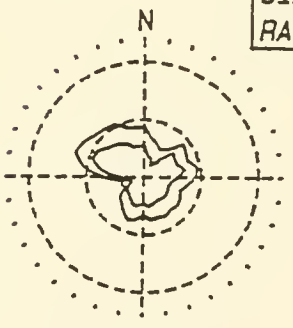
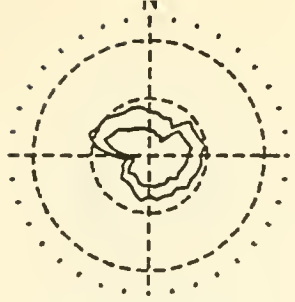


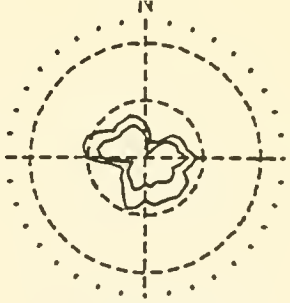
LOCATION 37

FIGURE G6

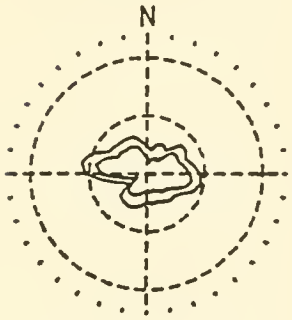
Ratios of Mean
and Effective Gust Speeds to Gradient Speed
MARKETPLACE - EXISTING CONDITIONS



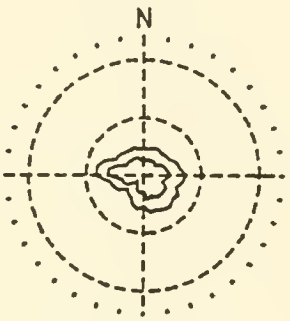
LOCATION 38



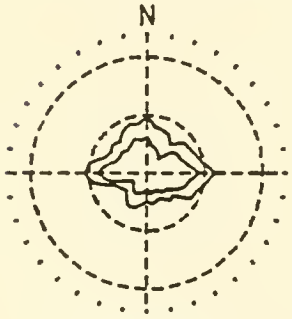
LOCATION 39



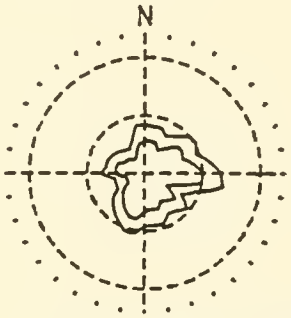
LOCATION 40



LOCATION 41

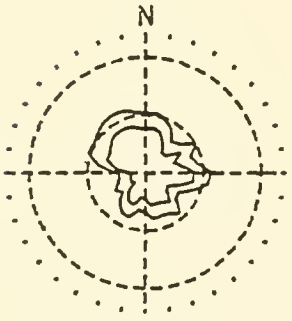


LOCATION 42

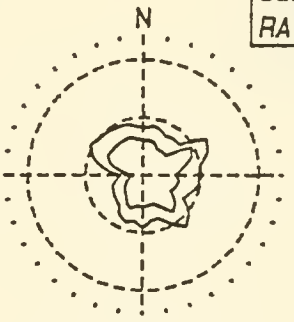


LOCATION 43

NOTE: OUTER CIRCLE REPRESENTS RATIO OF 1.0



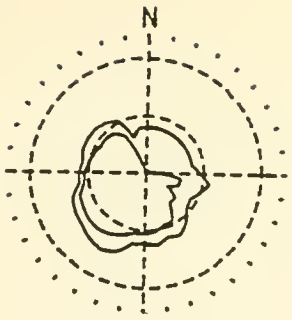
LOCATION 44



LOCATION 45

FIGURE G7

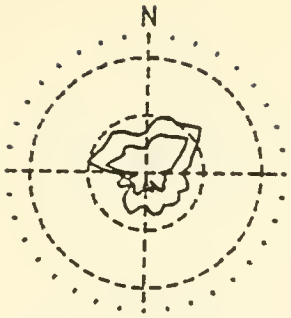
Ratios of Mean
and Effective Gust Speeds to Gradient Speed
MARKETPLACE - EXISTING CONDITIONS



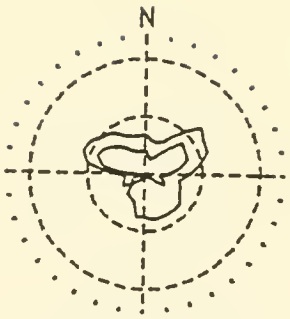
NOTE: OUTER CIRCLE REPRESENTS RATIO OF 1.0

FIGURE G8

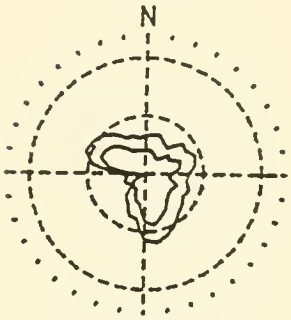
Ratios of Mean
and Effective Gust Speeds to Gradient Speed
MARKETPLACE - EXISTING CONDITIONS



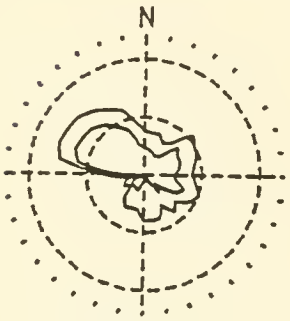
LOCATION 1



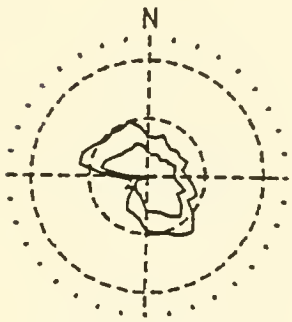
LOCATION 2



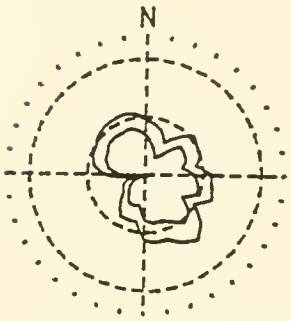
LOCATION 3



LOCATION 4

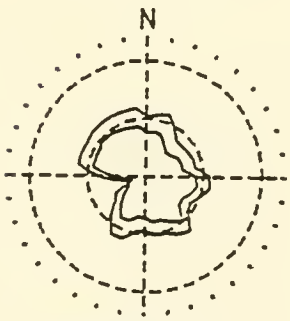


LOCATION 5

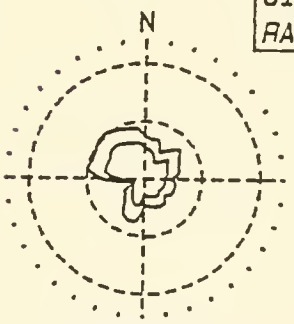


LOCATION 6

NOTE: OUTER CIRCLE REPRESENTS RATIO OF 1.0



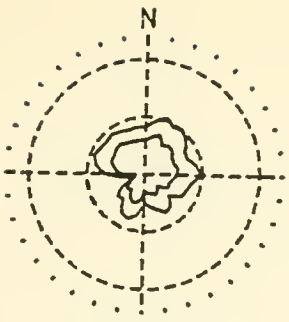
LOCATION 7



LOCATION 8

FIGURE G9

Ratios of Mean
and Effective Gust Speeds to Gradient Speed
MARKETPLACE - PROPOSED BUILDING ON SITE



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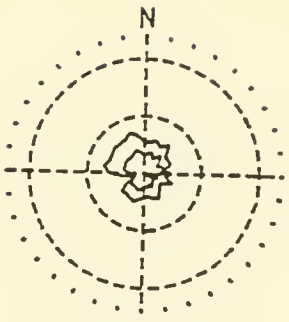

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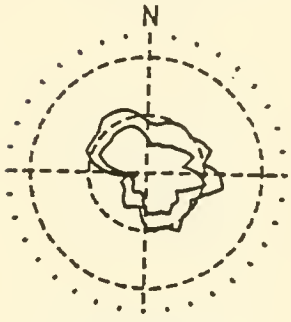

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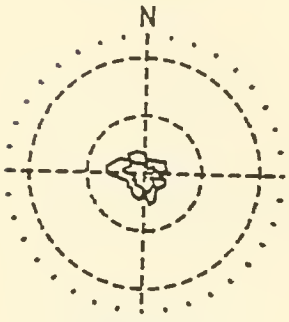

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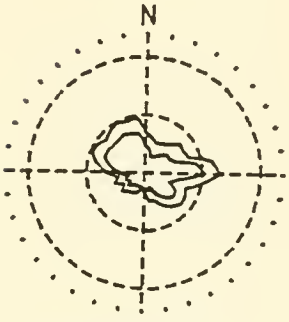
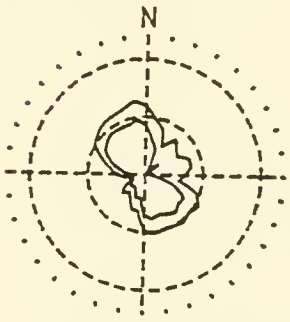
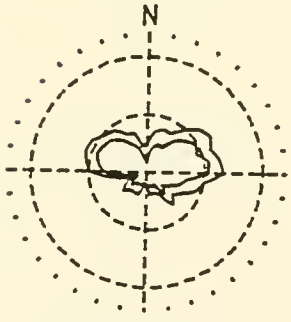


LOCATION 15

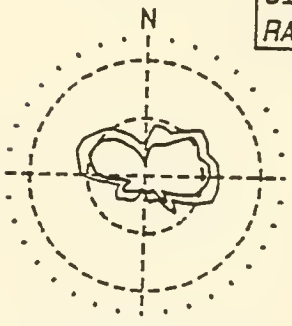


LOCATION 16

NOTE: OUTER CIRCLE REPRESENTS RATIO OF 1.0



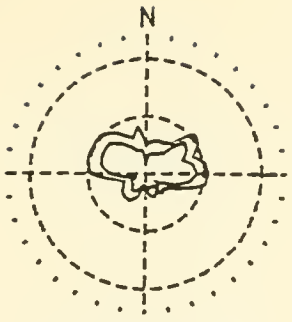
LOCATION 17



LOCATION 18

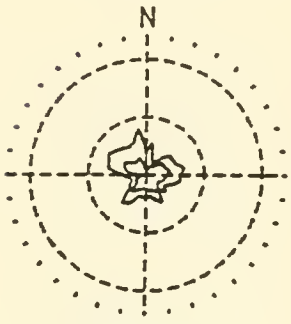
FIGURE G10

Ratios of Mean
and Effective Gust Speeds to Gradient Speed
MARKETPLACE - PROPOSED BUILDING ON SITE

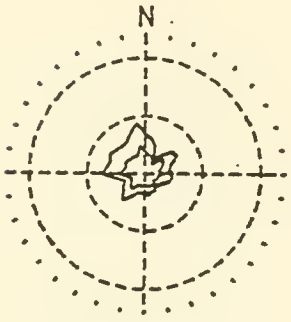


LOCATION 19

LOCATION 20



LOCATION 21



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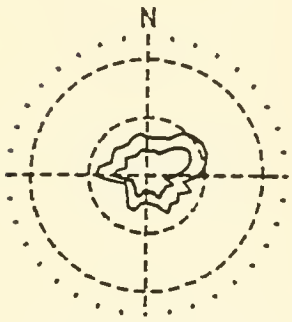

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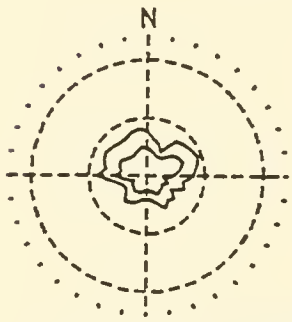
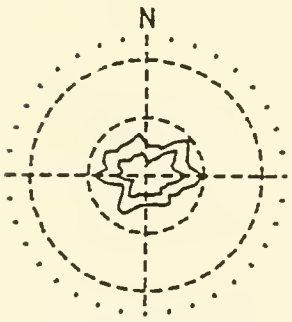


LOCATION 24

NOTE: OUTER CIRCLE REPRESENTS RATIO OF 1.0



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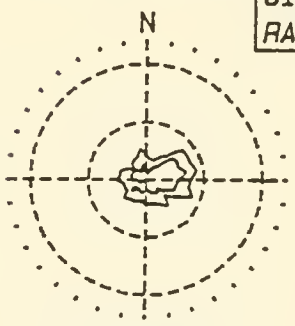
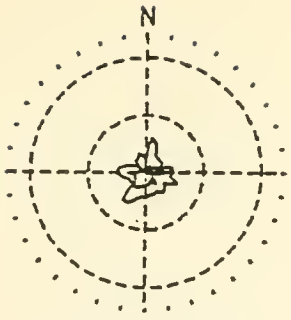


LOCATION 26

FIGURE G11

Ratios of Mean
and Effective Gust Speeds to Gradient Speed
MARKETPLACE - PROPOSED BUILDING ON SITE



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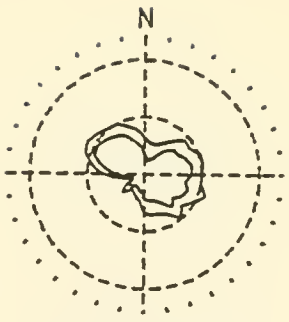

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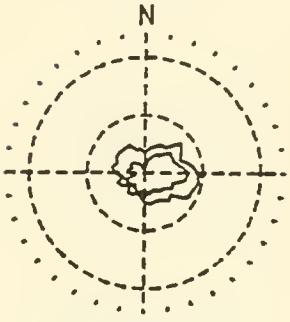

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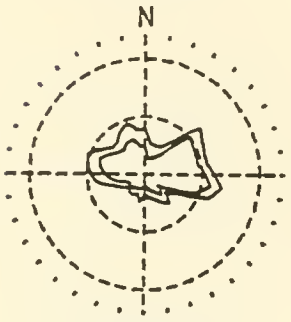

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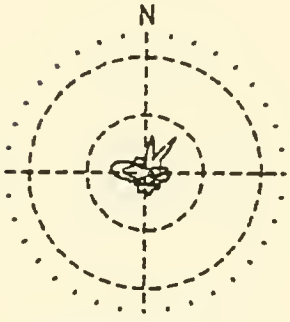
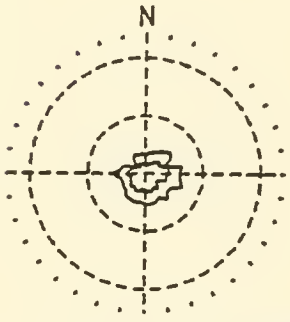
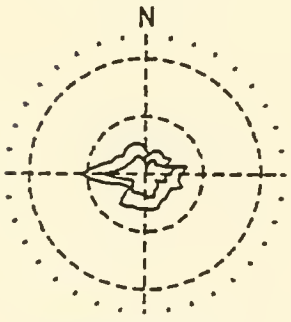


LOCATION 32

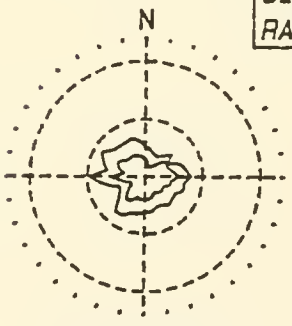


LOCATION 33

NOTE: OUTER CIRCLE REPRESENTS RATIO OF 1.0



LOCATION 34



LOCATION 35

FIGURE G12

Ratios of Mean
and Effective Gust Speeds to Gradient Speed
MARKETPLACE - PROPOSED BUILDING ON SITE

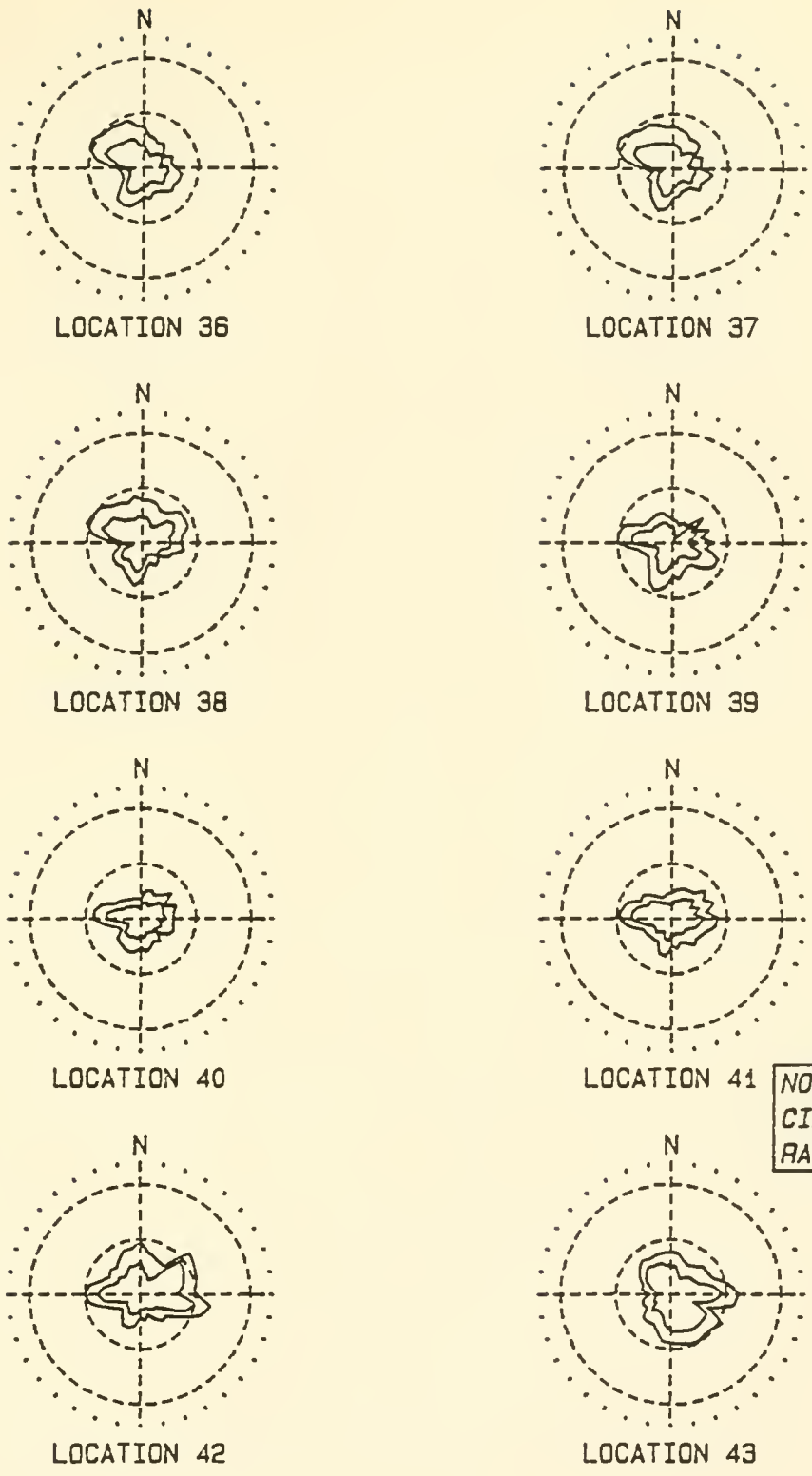
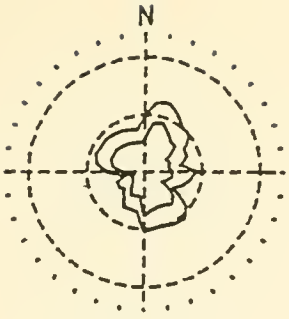
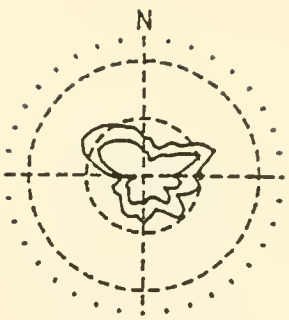


FIGURE G13

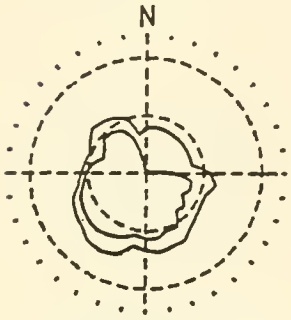
Ratios of Mean
and Effective Gust Speeds to Gradient Speed
MARKETPLACE - PROPOSED BUILDING ON SITE



LOCATION 44



LOCATION 45

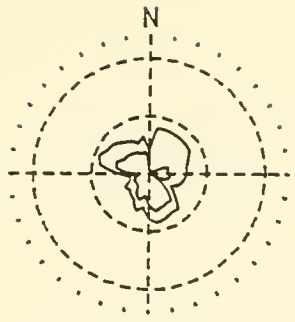


LOCATION 46

NOTE: OUTER CIRCLE REPRESENTS RATIO OF 1.0

FIGURE G14

Ratios of Mean
and Effective Gust Speeds to Gradient Speed
MARKETPLACE - PROPOSED BUILDING ON SITE



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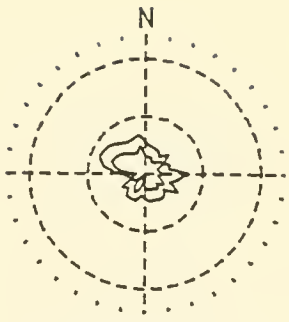
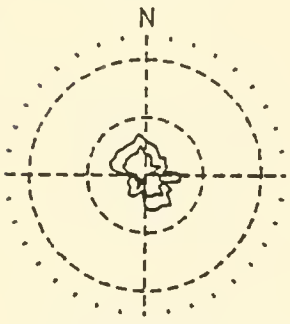
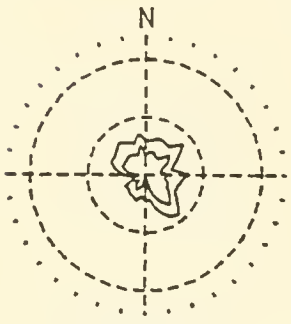


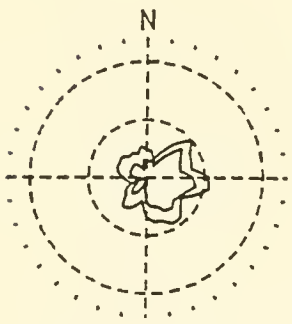
LOCATION 2



LOCATION 3



LOCATION 4



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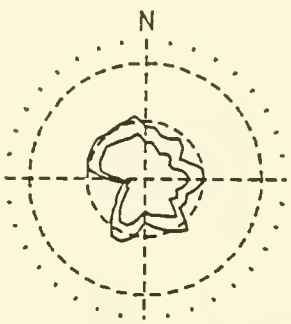
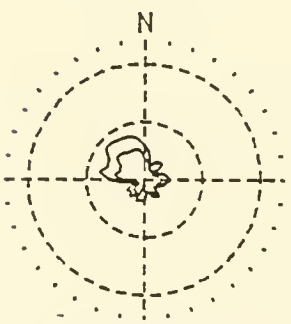
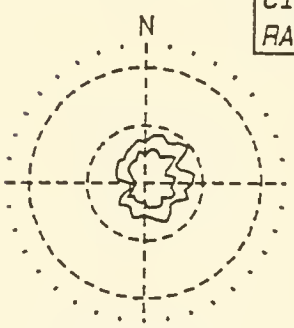


LOCATION 7

NOTE: OUTER CIRCLE REPRESENTS RATIO OF 1.0



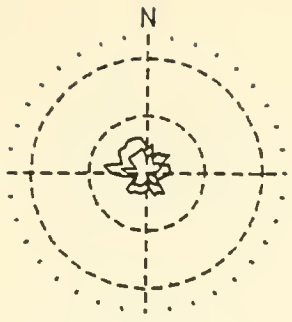
LOCATION 8



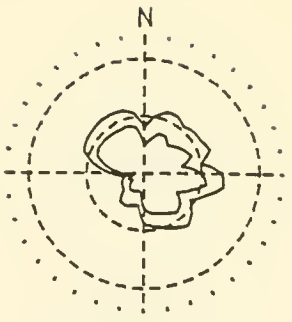
LOCATION 9

FIGURE G15

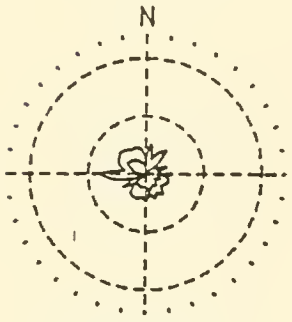
Ratios of Mean
and Effective Gust Speeds to Gradient Speed
MARKETPLACE - BUILDING WITH SOLUTIONS



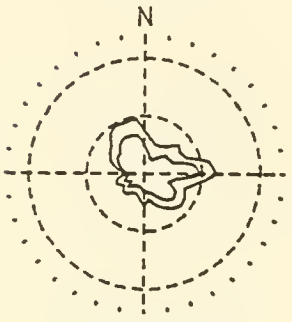
LOCATION 10



LOCATION 12



LOCATION 13



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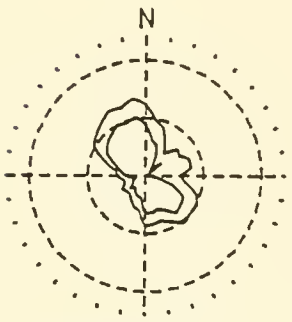

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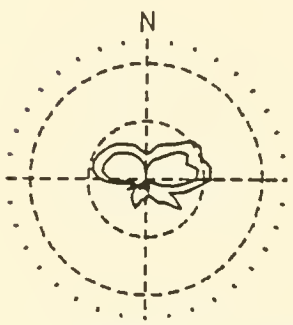
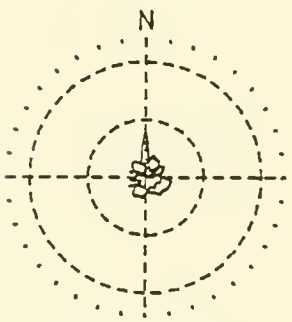
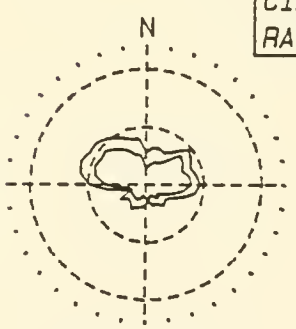


LOCATION 17

NOTE: OUTER CIRCLE REPRESENTS RATIO OF 1.0



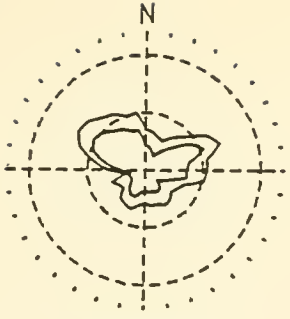
LOCATION 18



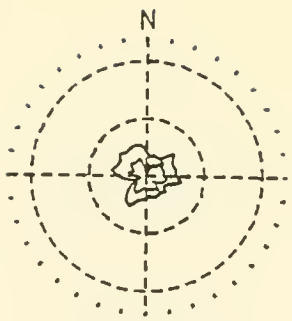
LOCATION 19

FIGURE G16

Ratios of Mean
and Effective Gust Speeds to Gradient Speed
MARKETPLACE - BUILDING WITH SOLUTIONS



LOCATION 20



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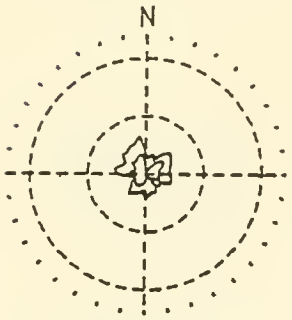

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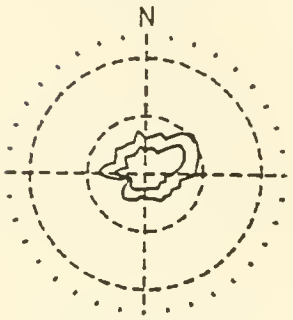

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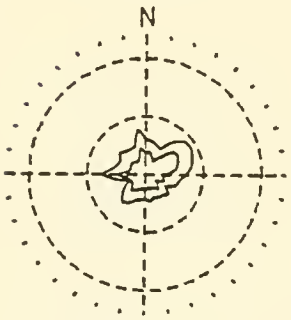

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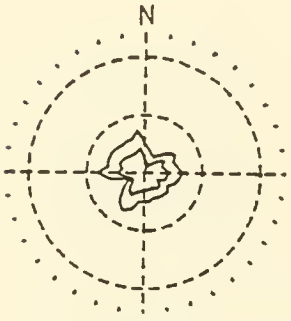
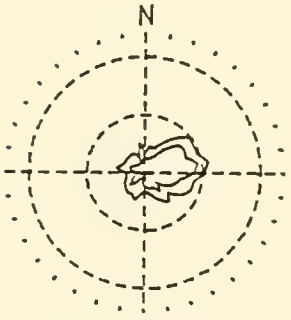
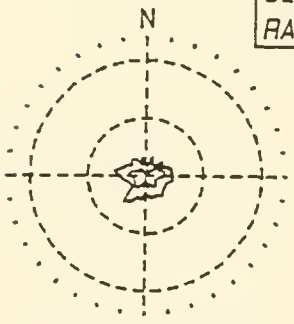


LOCATION 25

NOTE: OUTER CIRCLE REPRESENTS RATIO OF 1.0



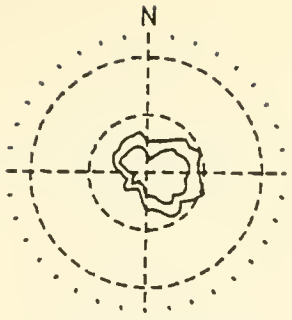
LOCATION 26



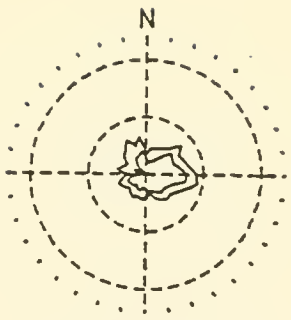
LOCATION 27

FIGURE G17

Ratios of Mean
and Effective Gust Speeds to Gradient Speed
MARKETPLACE - BUILDING WITH SOLUTIONS



LOCATION 29



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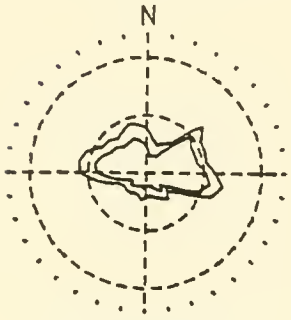

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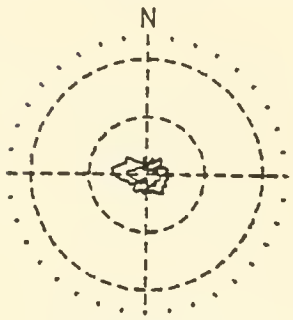

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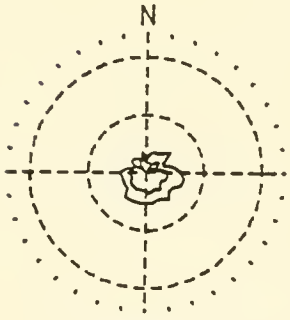

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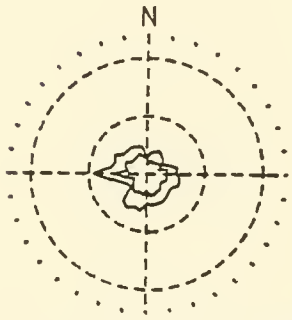
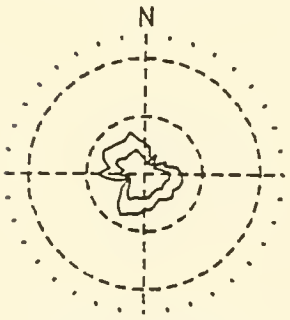
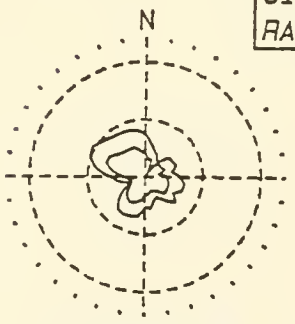


LOCATION 34

NOTE: OUTER CIRCLE REPRESENTS RATIO OF 1.0



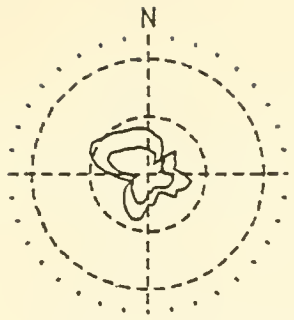
LOCATION 35



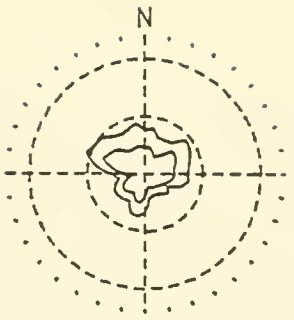
LOCATION 36

FIGURE G18

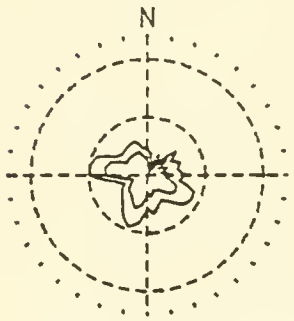
Ratios of Mean
and Effective Gust Speeds to Gradient Speed
MARKETPLACE - BUILDING WITH SOLUTIONS



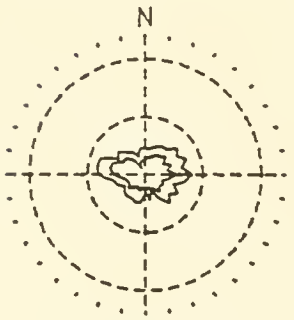
LOCATION 37



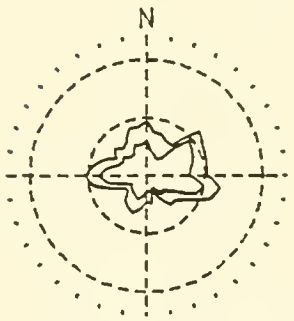
LOCATION 38



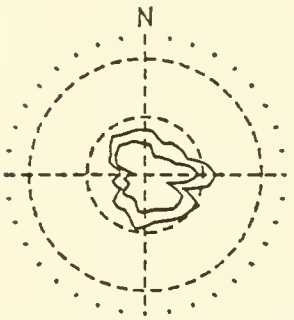
LOCATION 39



LOCATION 41

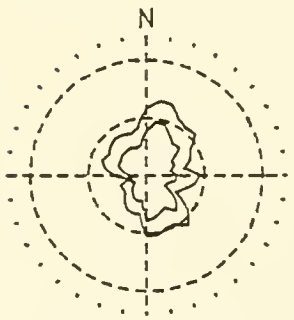


LOCATION 42

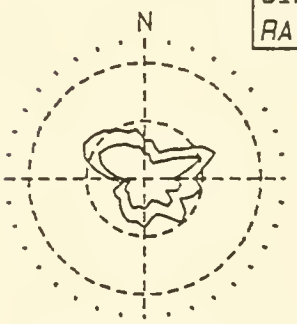


LOCATION 43

NOTE: OUTER CIRCLE REPRESENTS RATIO OF 1.0



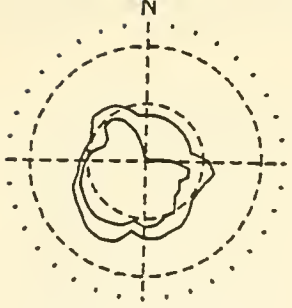
LOCATION 44



LOCATION 45

FIGURE G19

Ratios of Mean
and Effective Gust Speeds to Gradient Speed
MARKETPLACE - BUILDING WITH SOLUTIONS



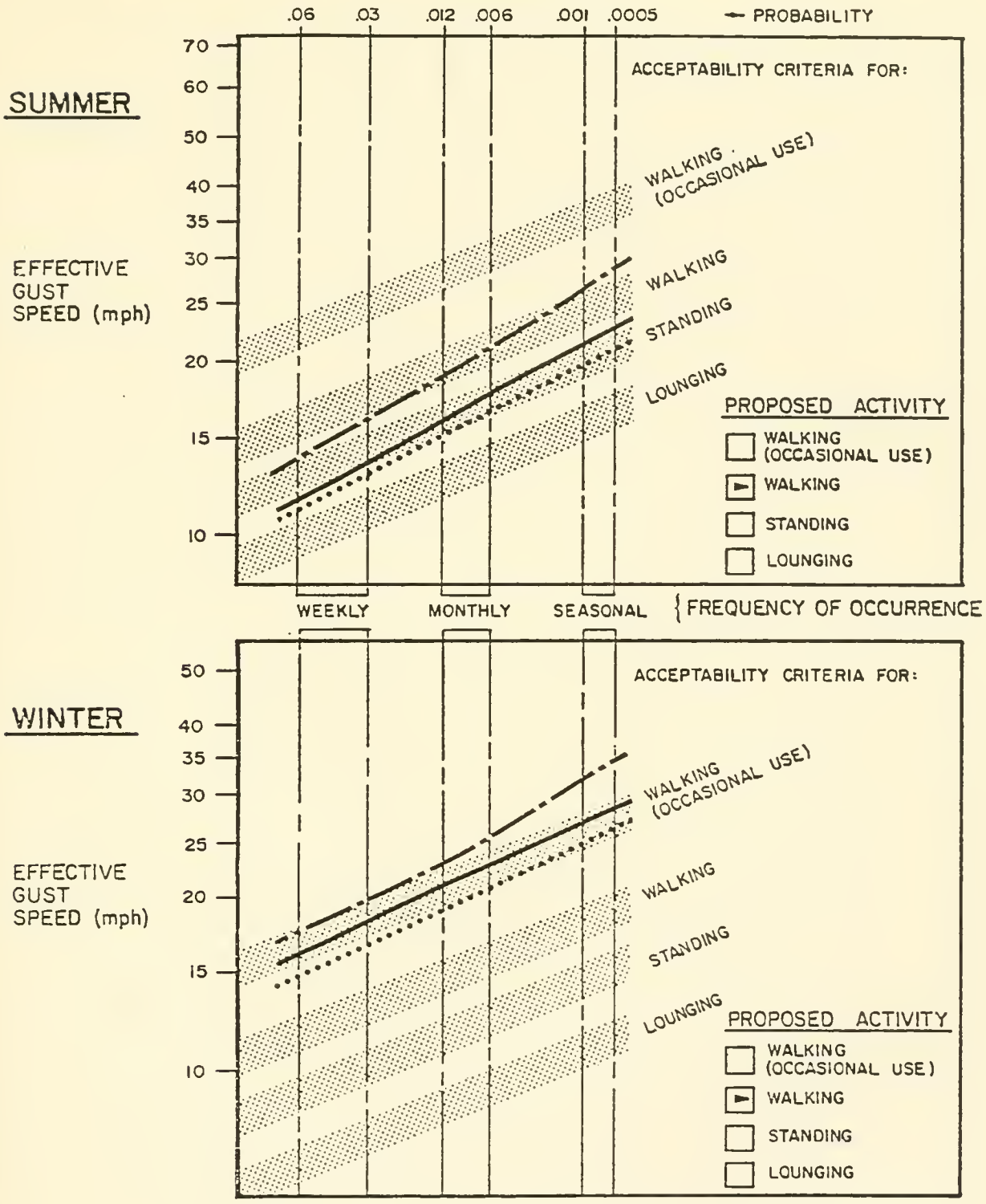
LOCATION 46

NOTE: OUTER CIRCLE REPRESENTS RATIO OF 1.0

FIGURE G20

Ratios of Mean
and Effective Gust Speeds to Gradient Speed
MARKETPLACE - BUILDING WITH SOLUTIONS

EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (1)

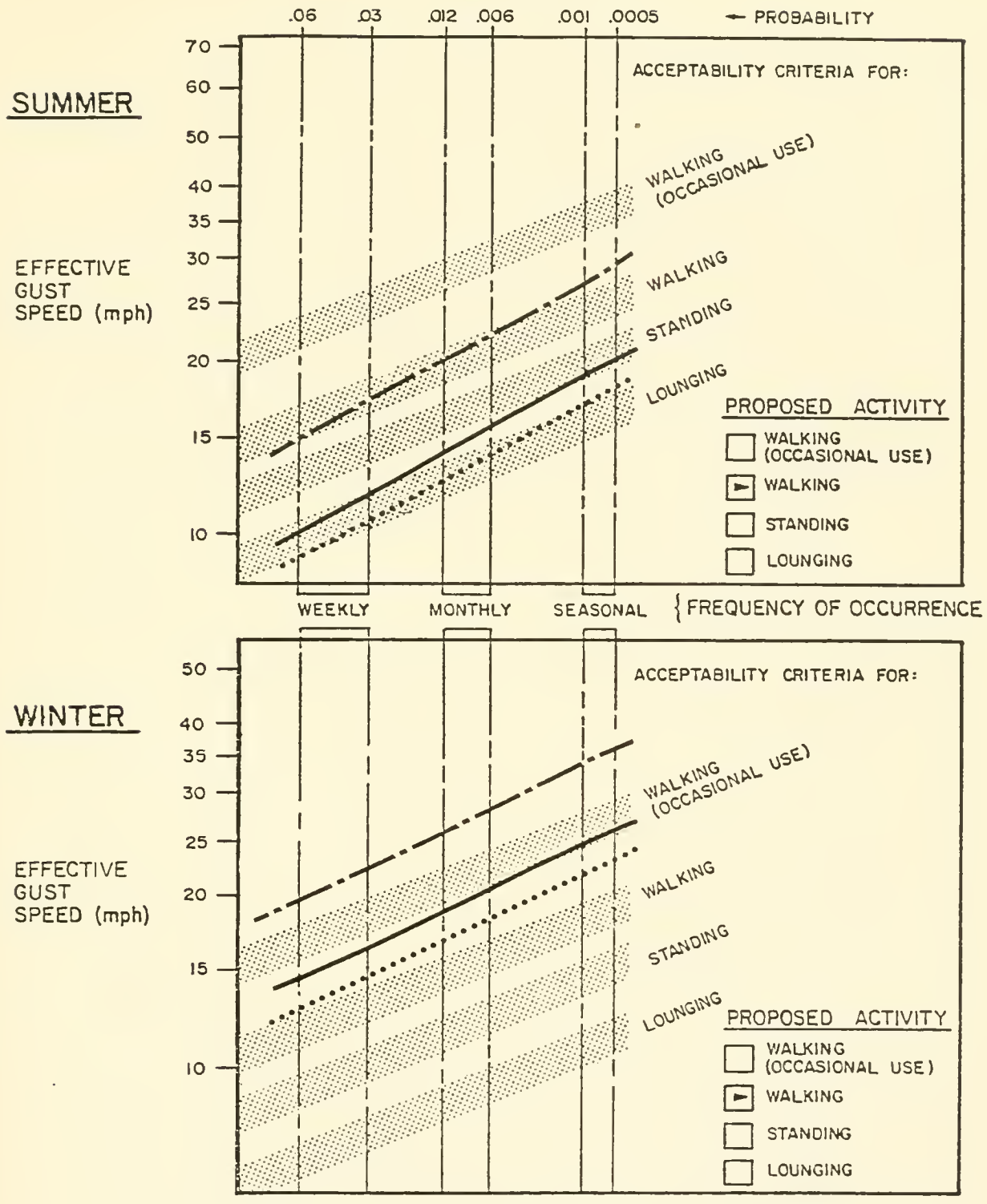


•••••• BEFORE CONSTRUCTION OF PROPOSED DEVELOPMENT

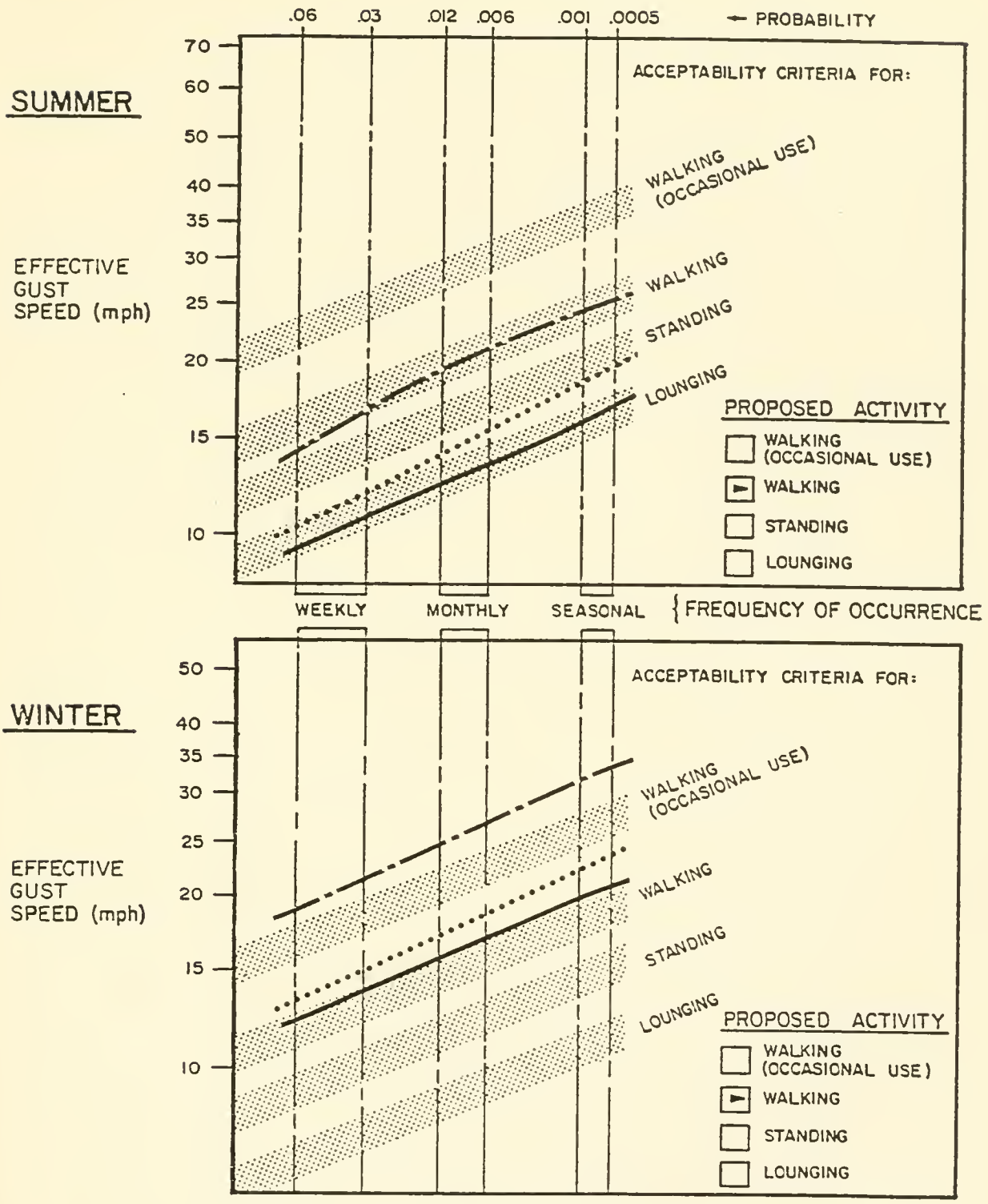
— — — AFTER CONSTRUCTION OF PROPOSED DEVELOPMENT

——— AFTER CONSTRUCTION OF PROPOSED DEVELOPMENT WITH REMEDIAL SOLUTIONS.

EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (2)



EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (3)



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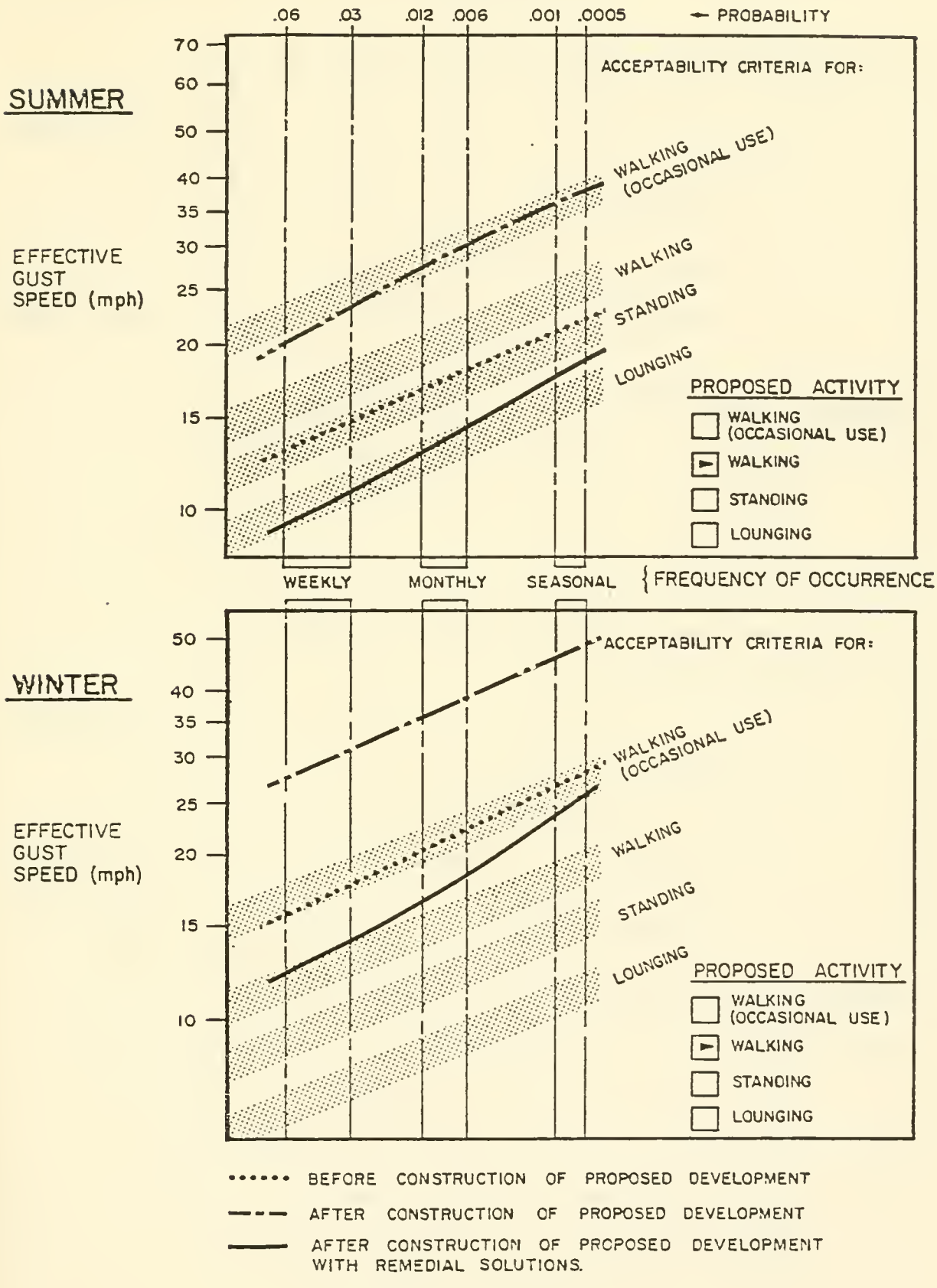
AFTER CONSTRUCTION OF PROPOSED DEVELOPMENT

AFTER CONSTRUCTION OF PROPOSED DEVELOPMENT WITH REMEDIAL SOLUTIONS.

EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (4)



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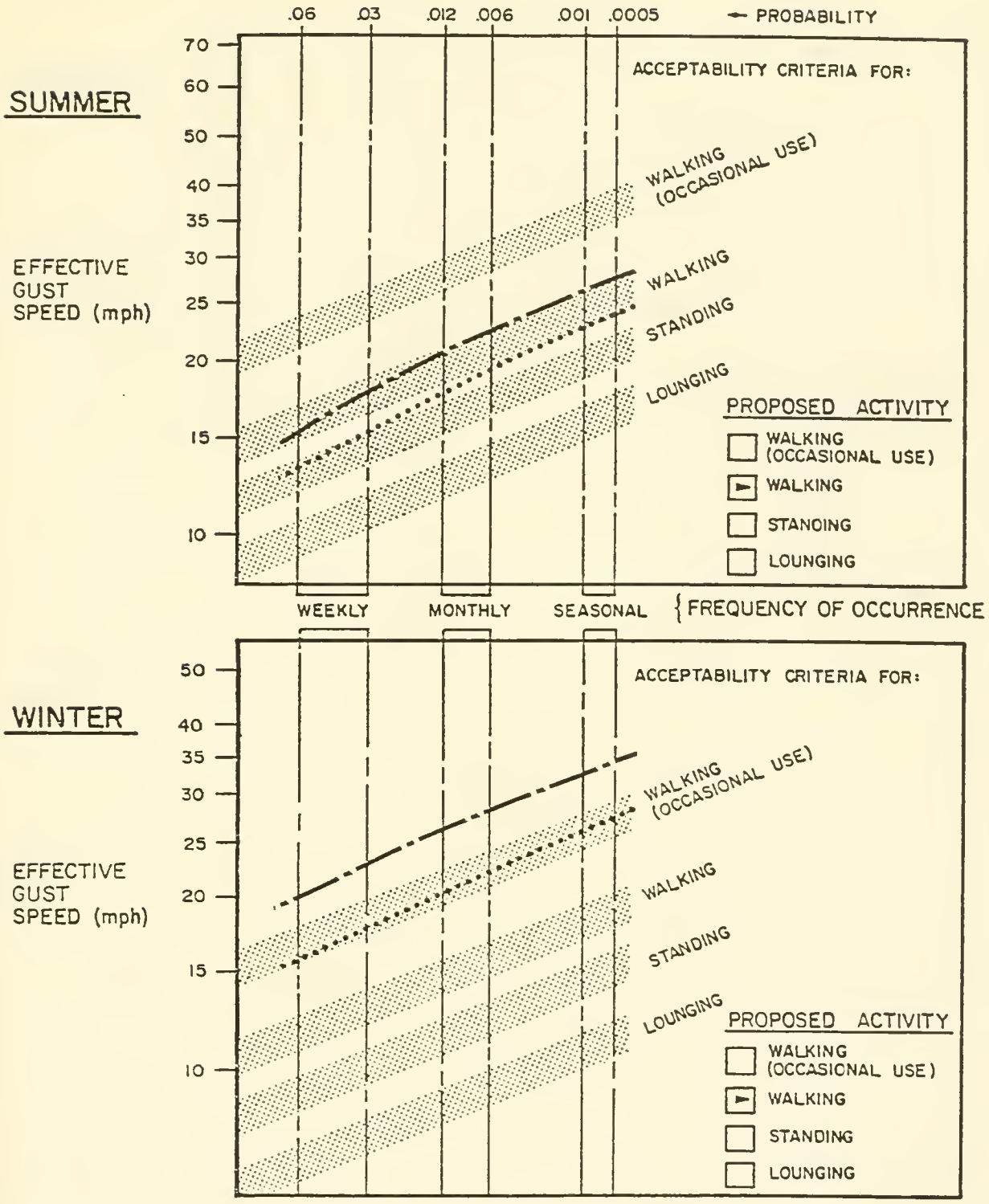
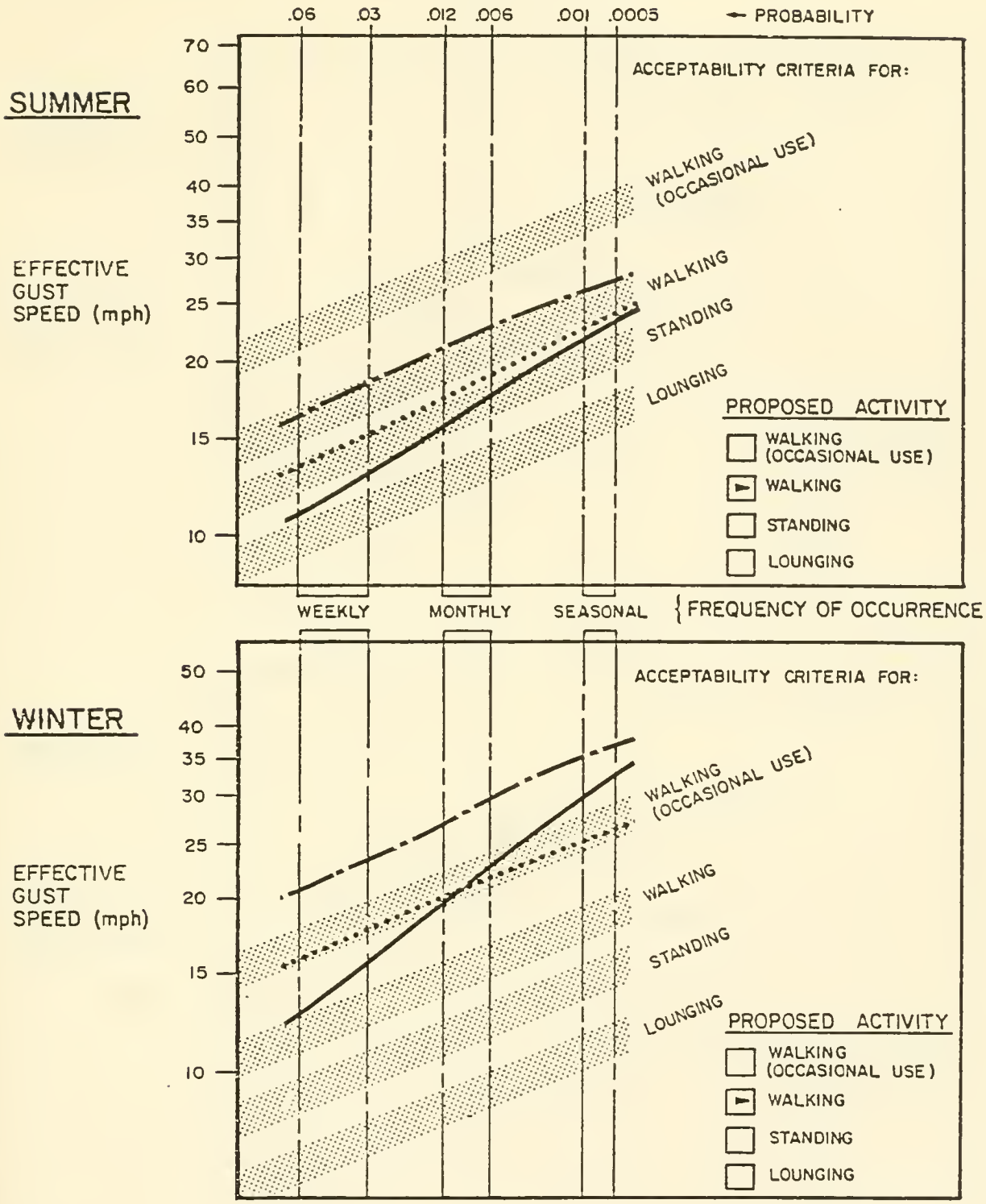
EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (5)



EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (6)



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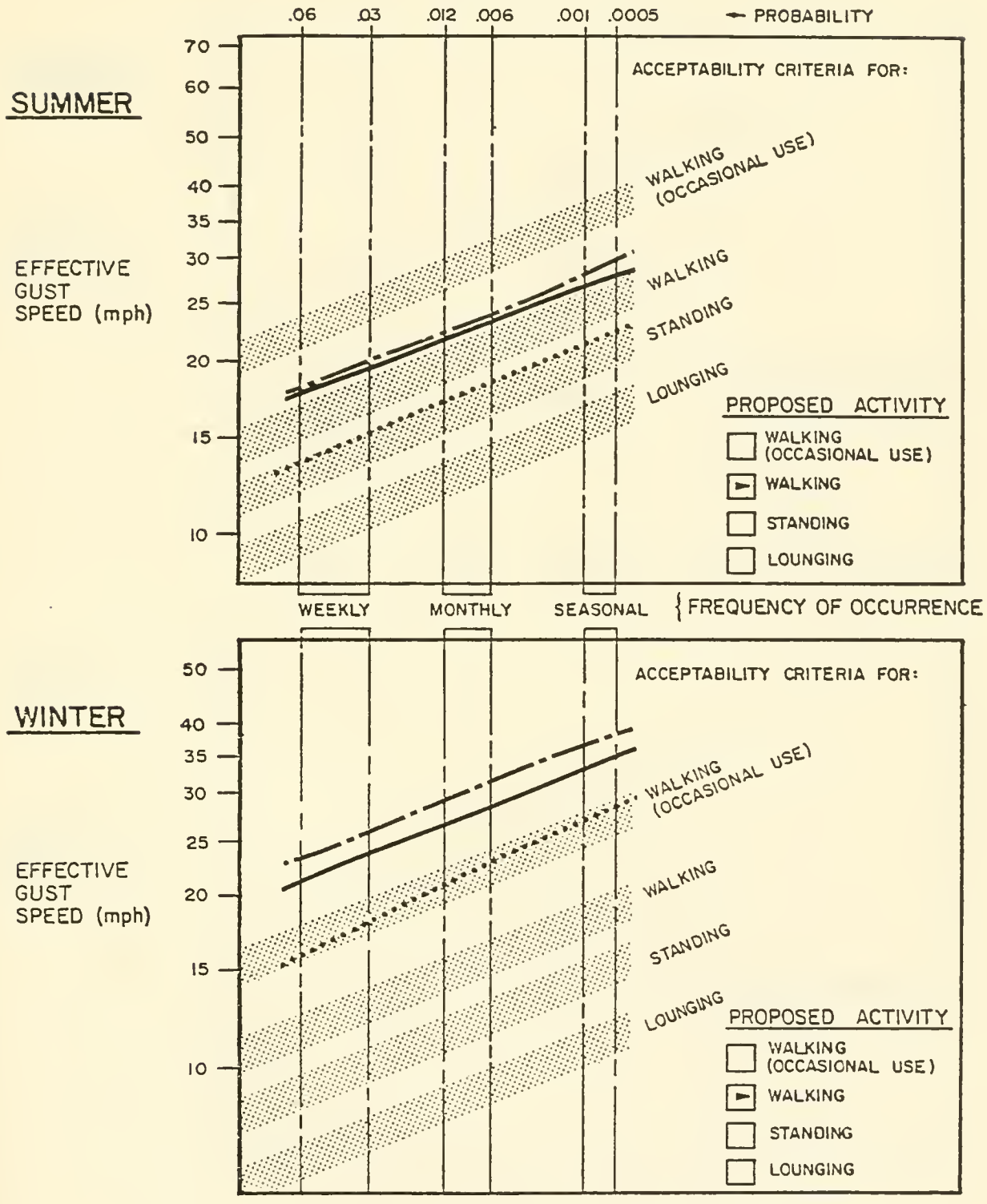
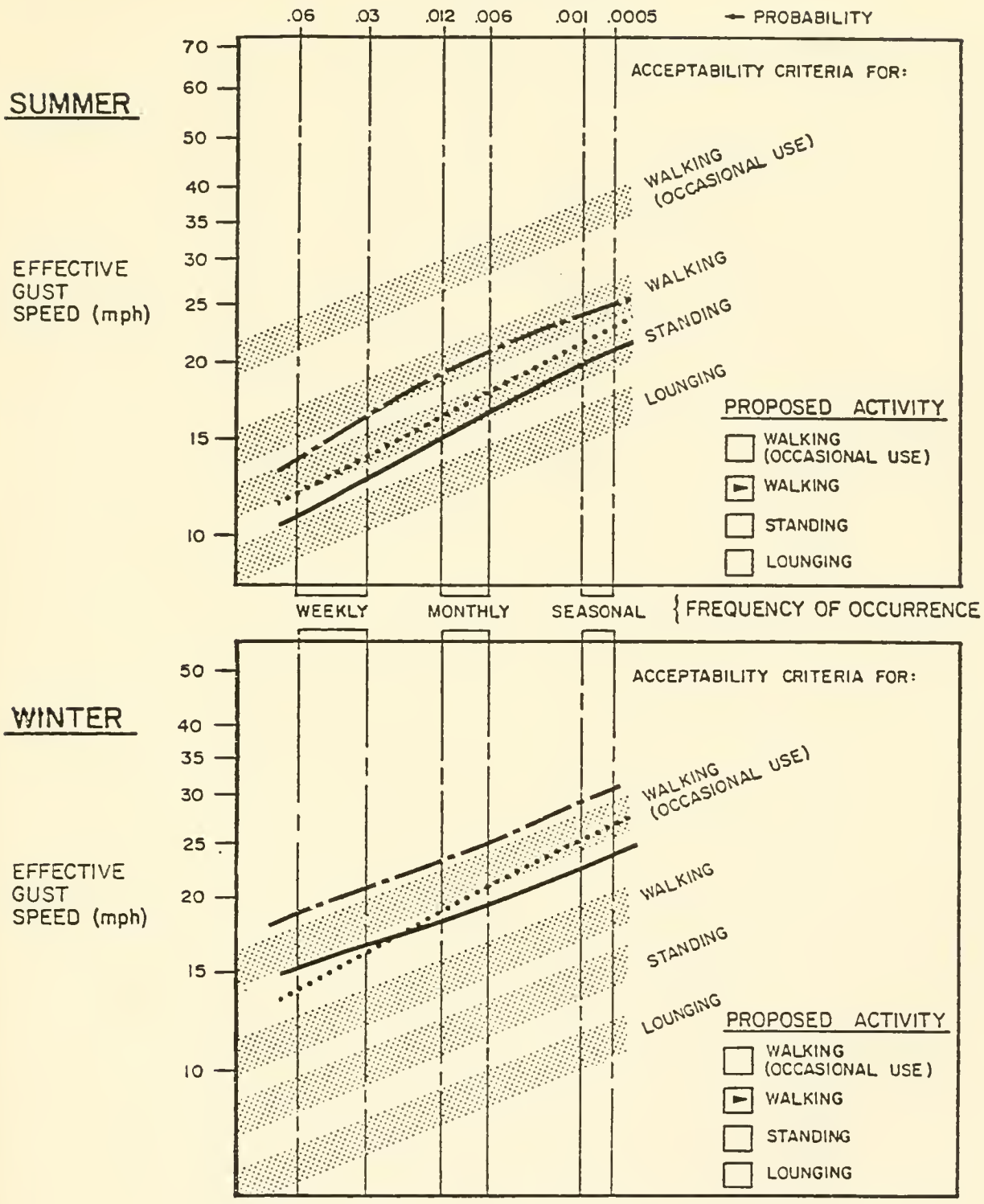
AFTER CONSTRUCTION OF PROPOSED DEVELOPMENT WITH REMEDIAL SOLUTIONS.

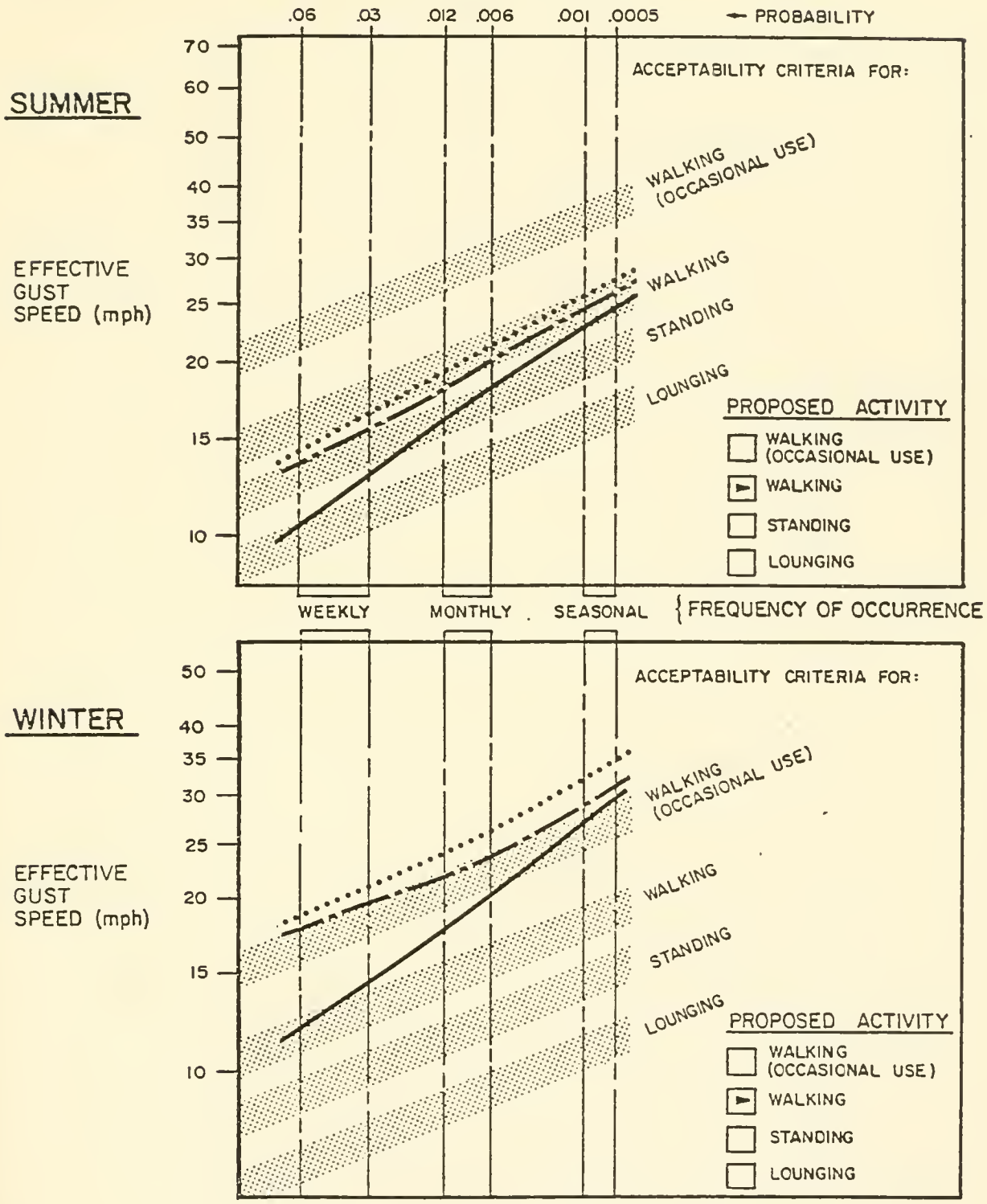
EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (7)



EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (8)



EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (9)



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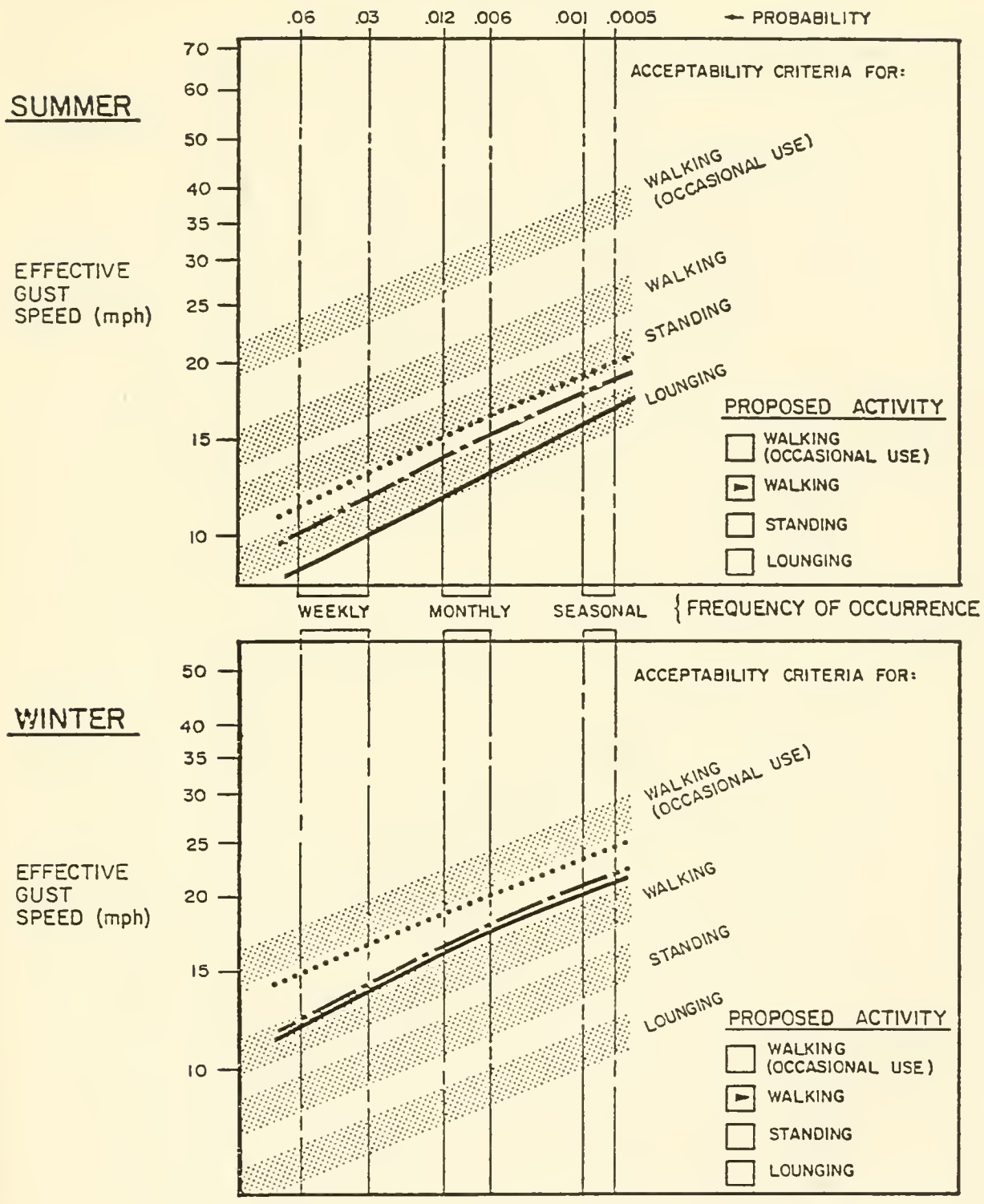
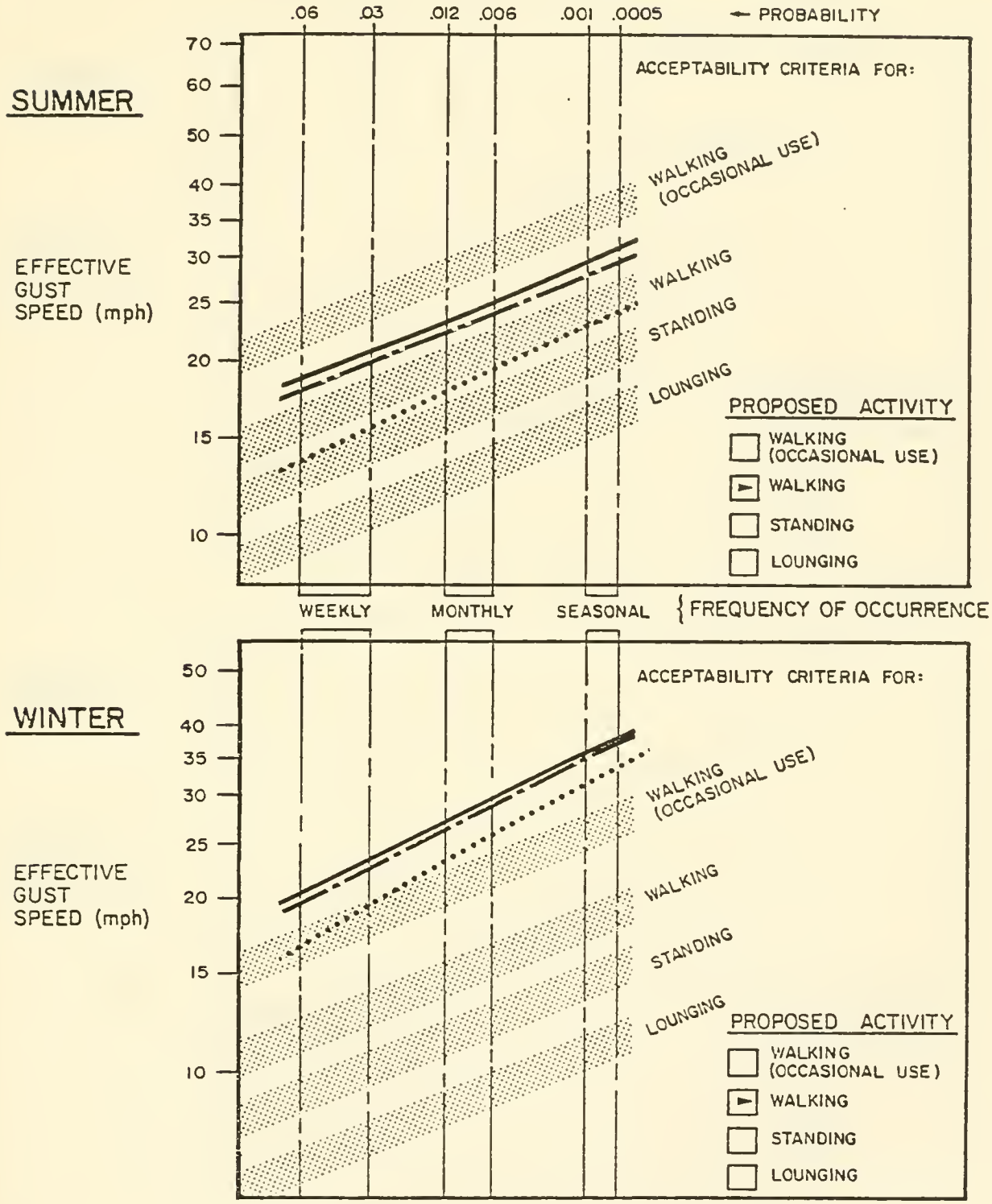
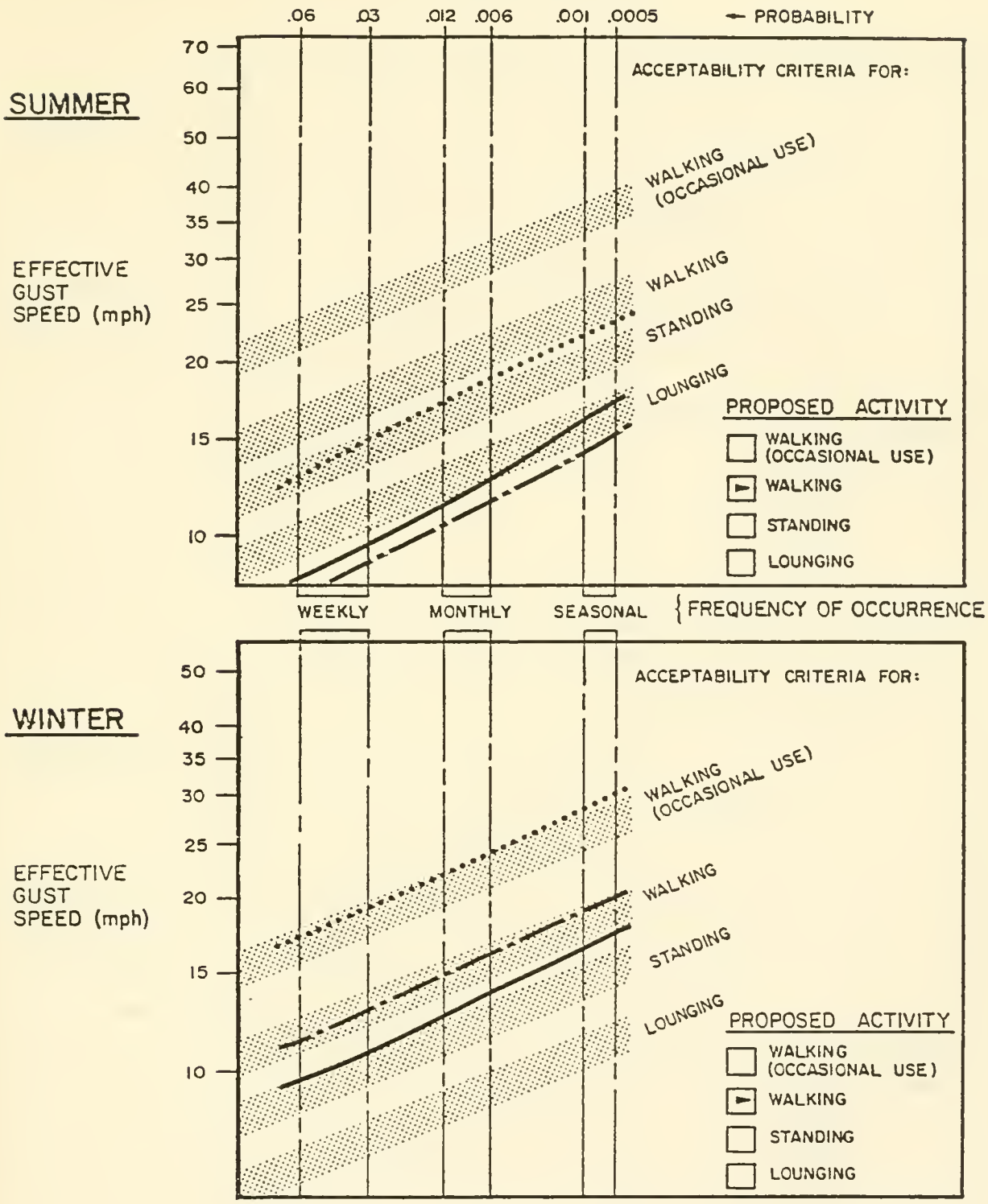
EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (10)



EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (12)



EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (13)



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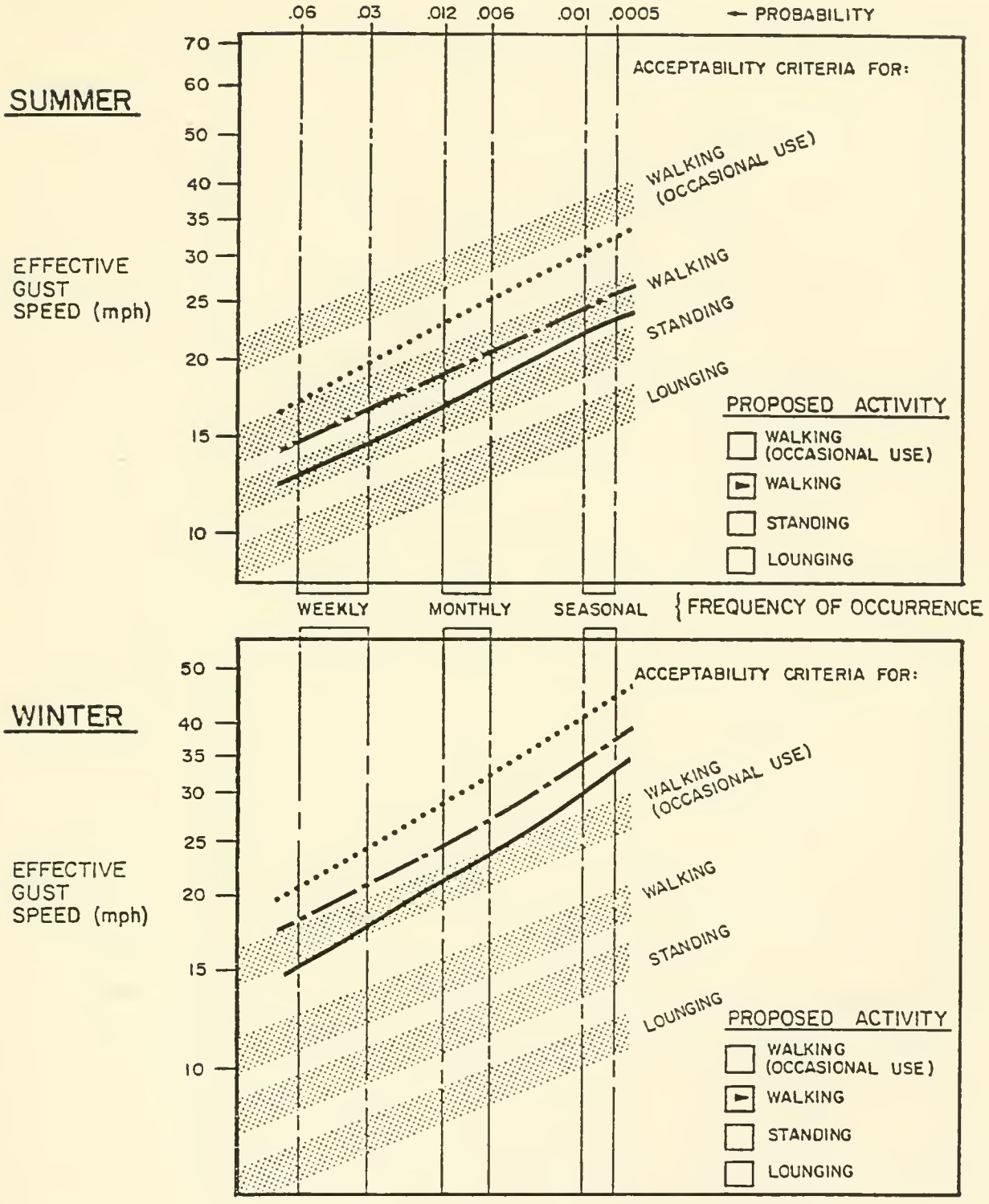
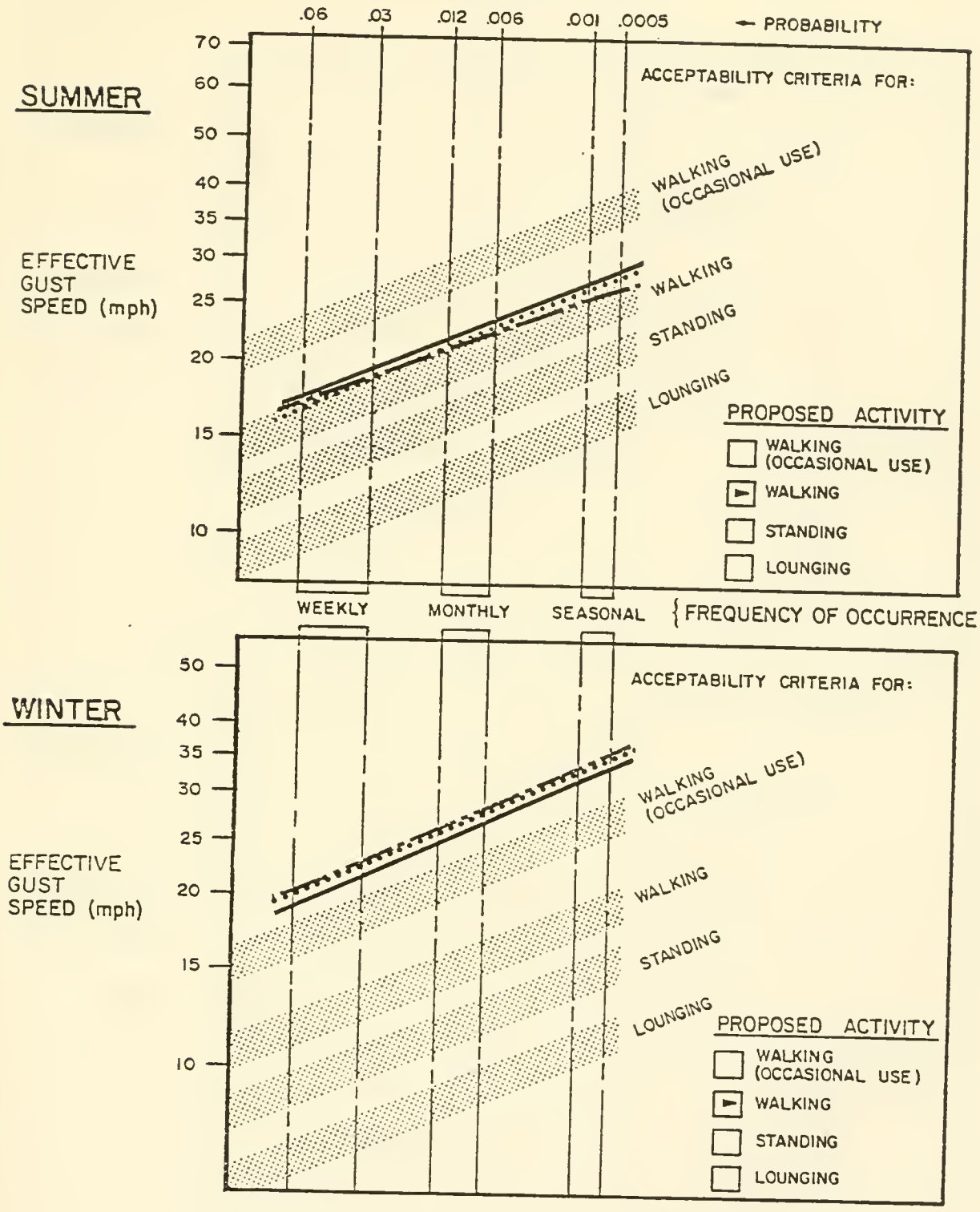
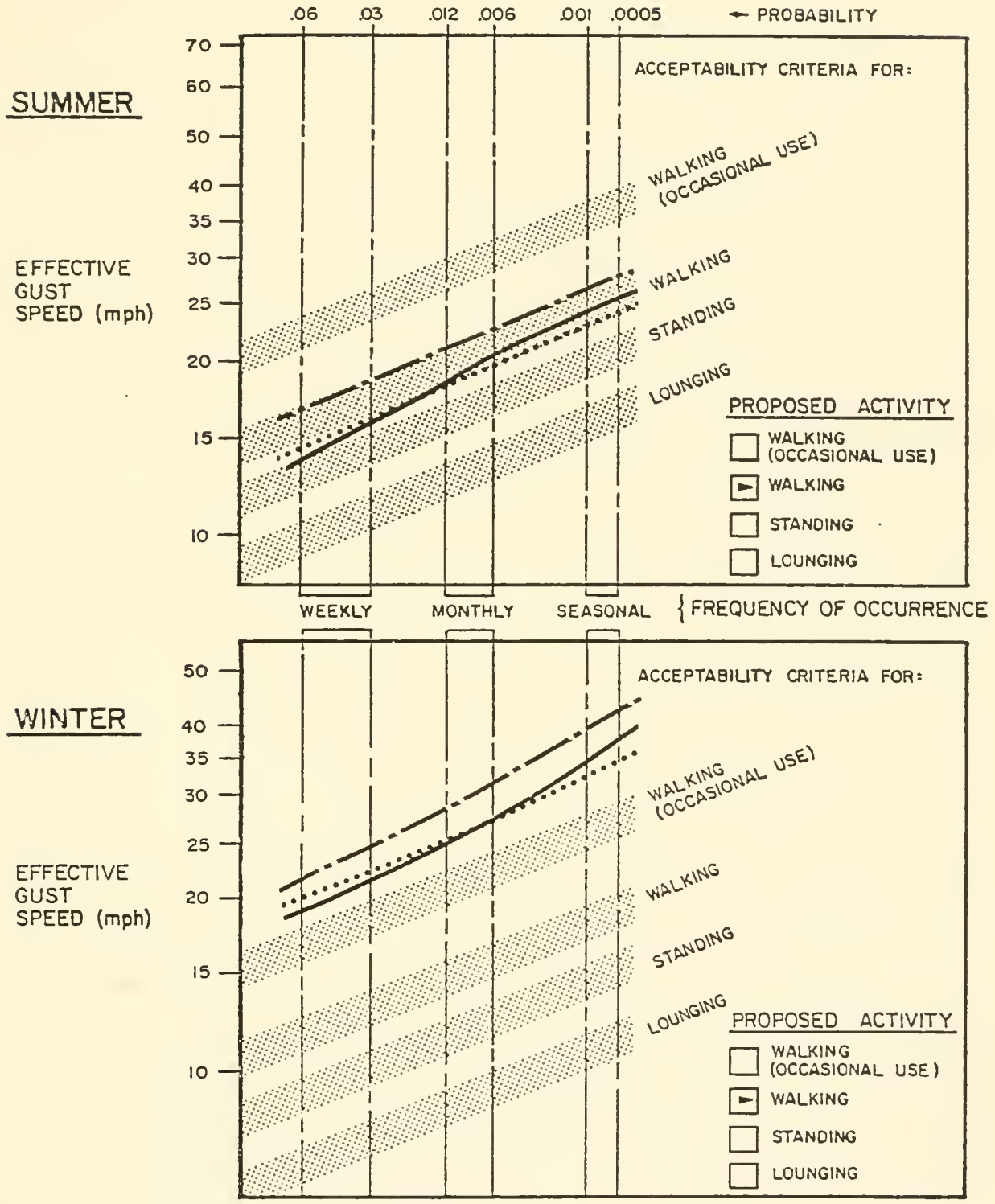
EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (15)



EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (16)



EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (17)



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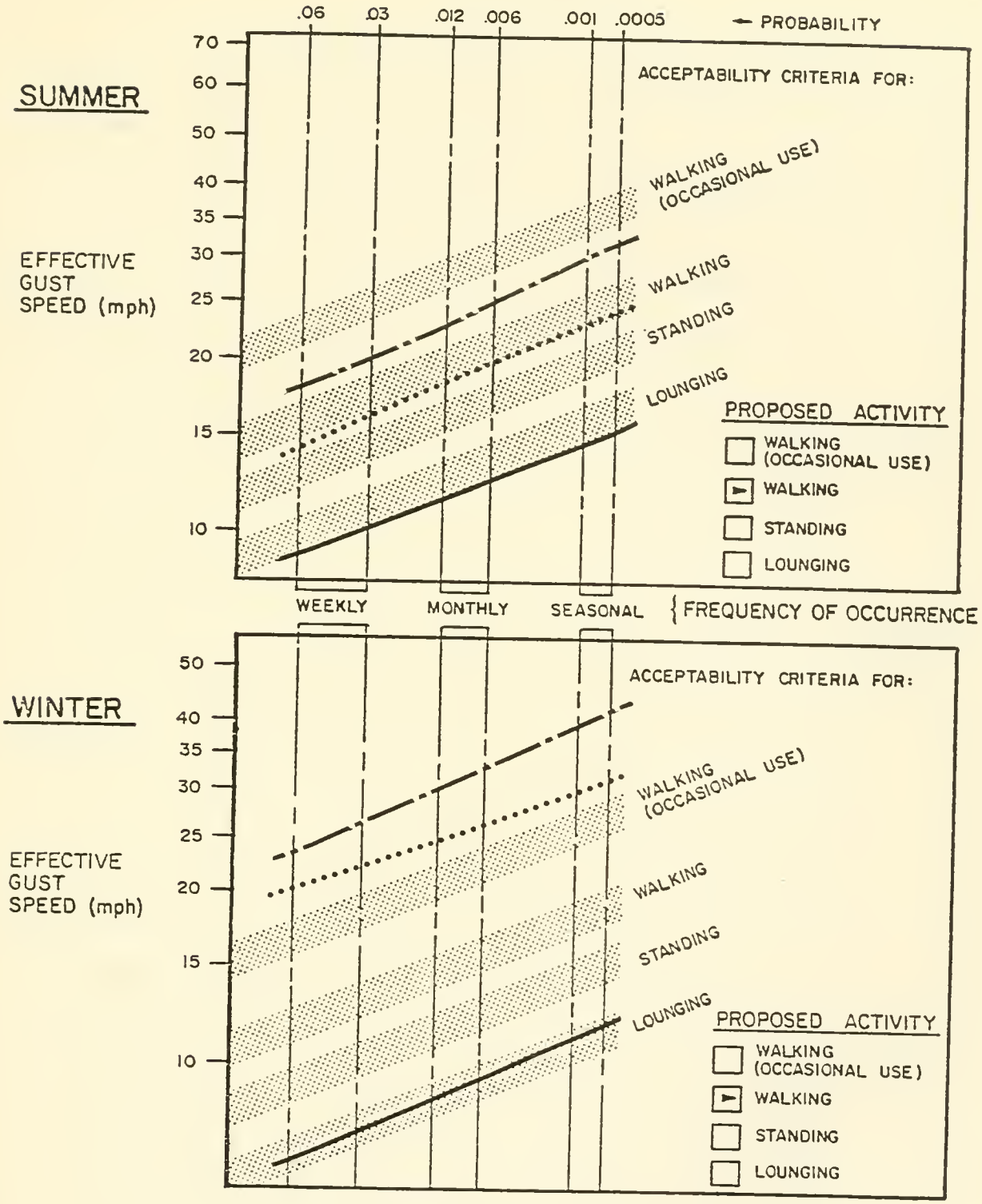
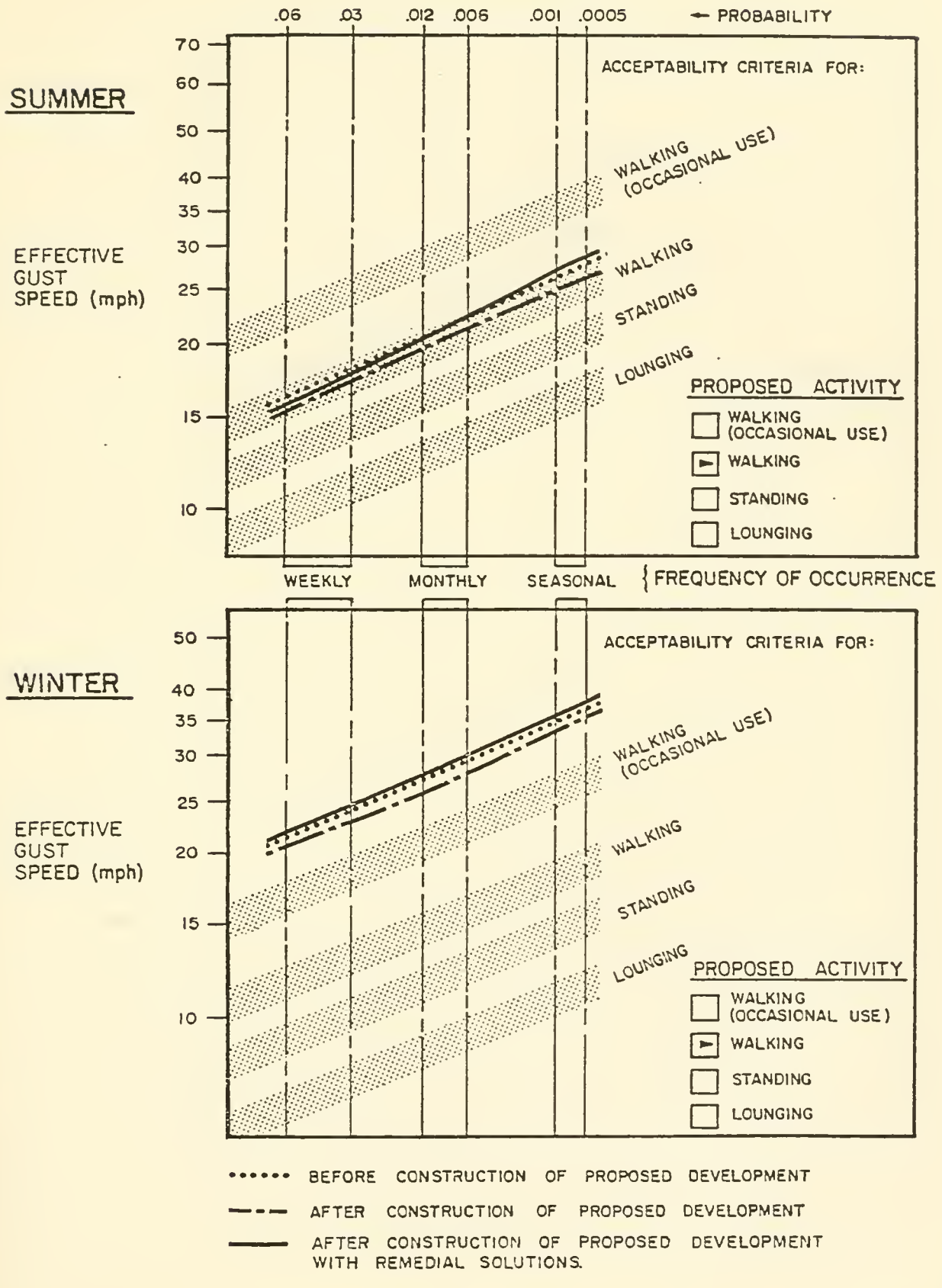
AFTER CONSTRUCTION OF PROPOSED DEVELOPMENT WITH REMEDIAL SOLUTIONS.

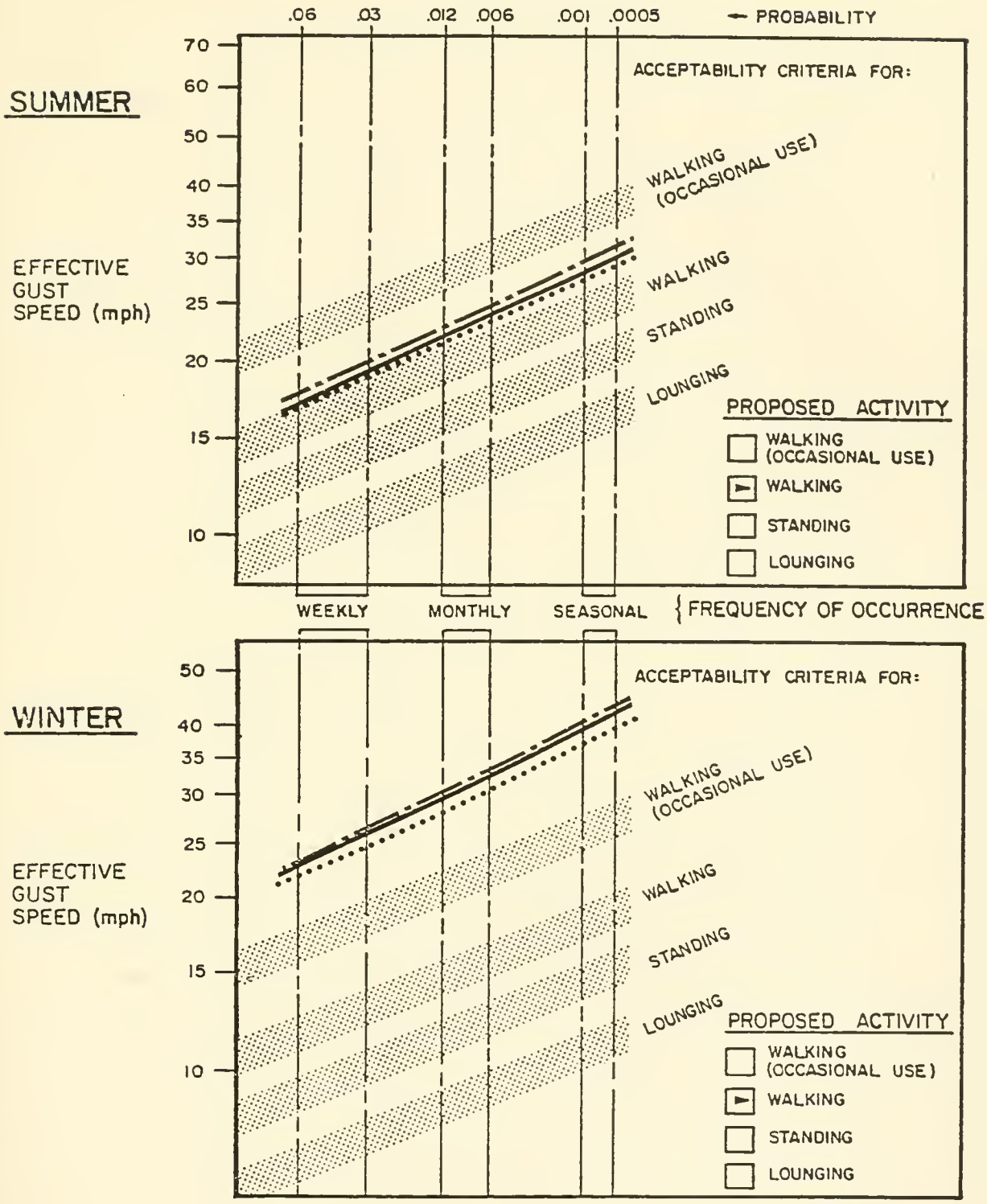
EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (18)



EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (19)



EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (20)



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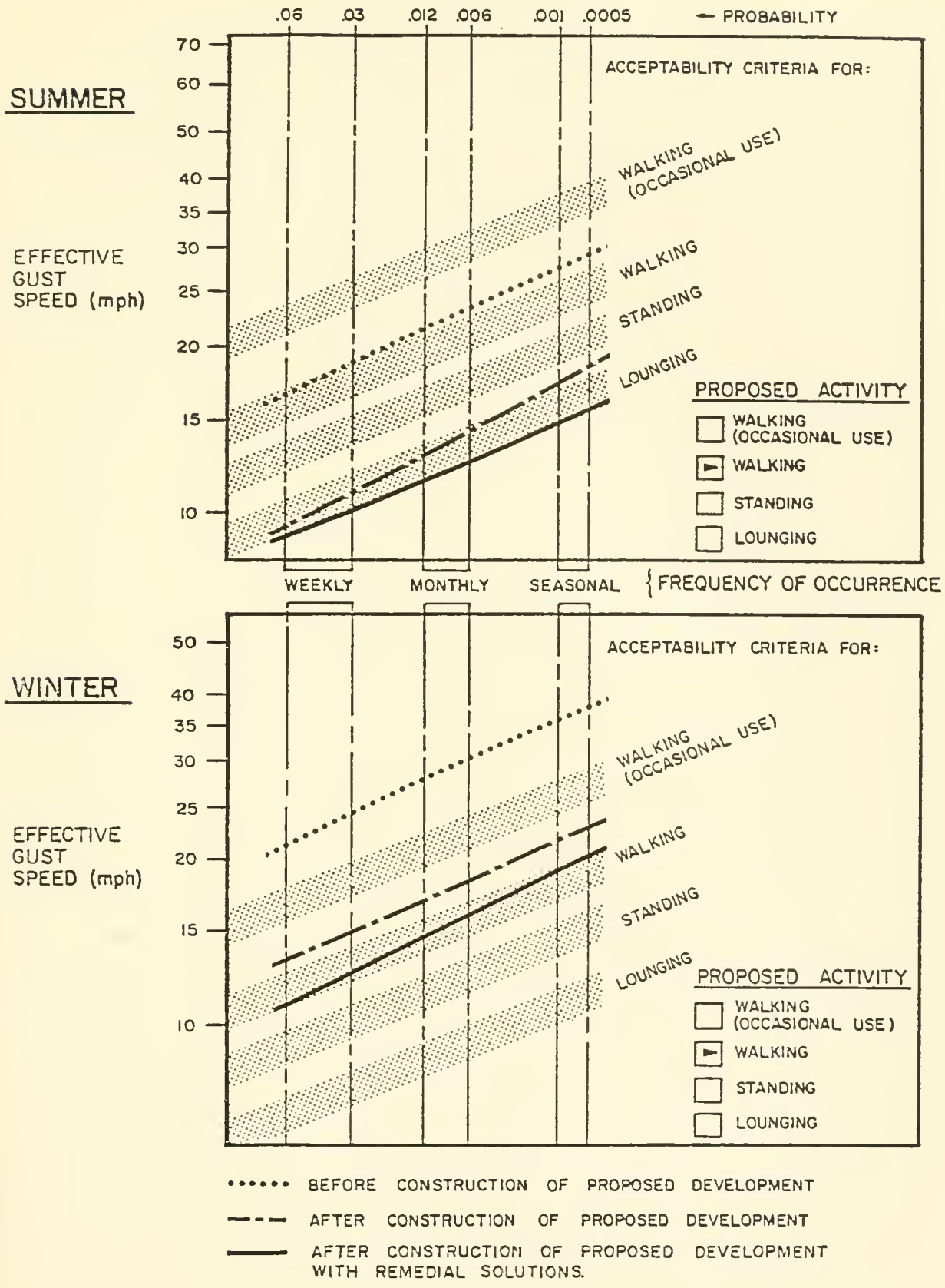
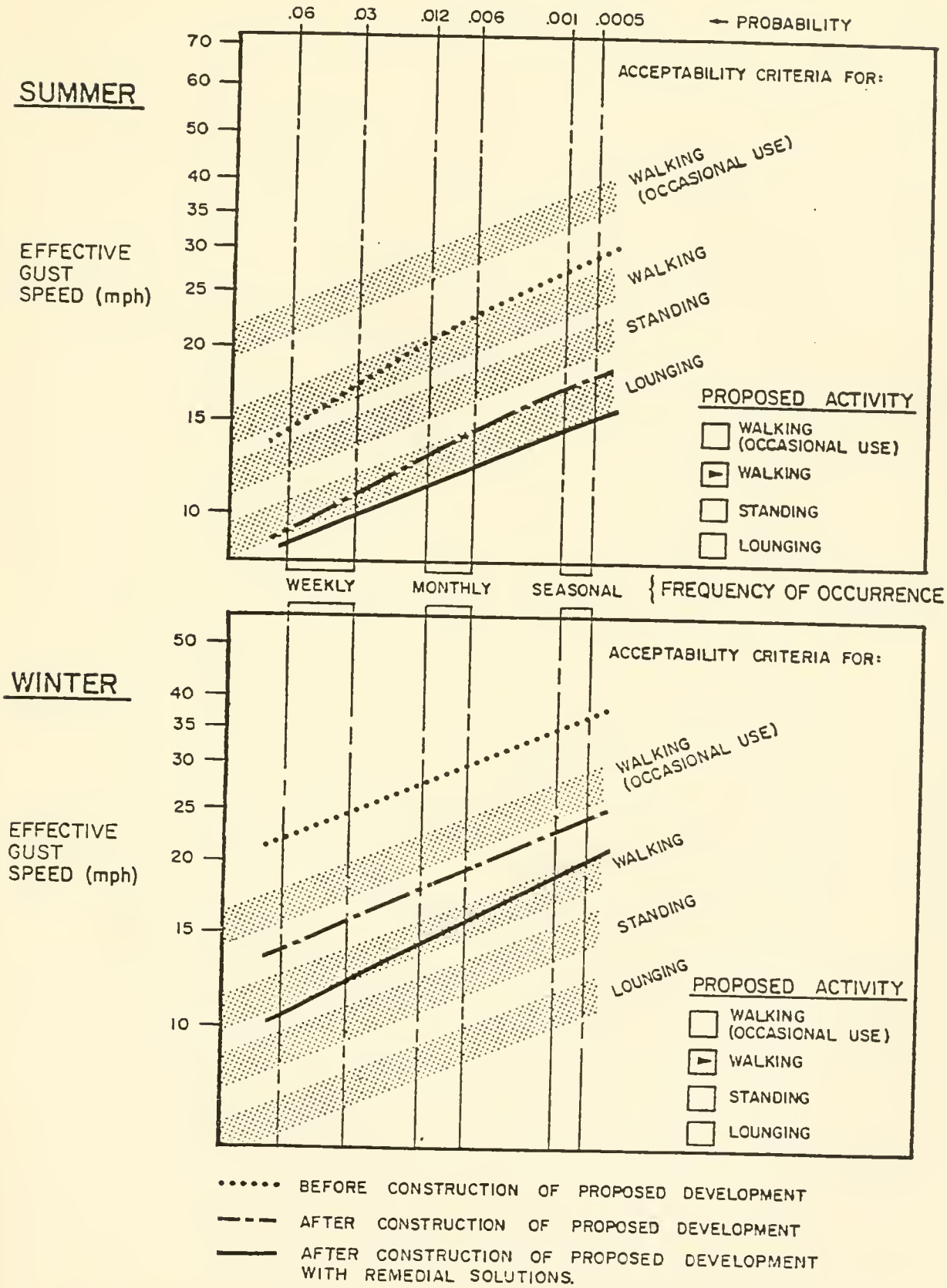
AFTER CONSTRUCTION OF PROPOSED DEVELOPMENT WITH REMEDIAL SOLUTIONS.

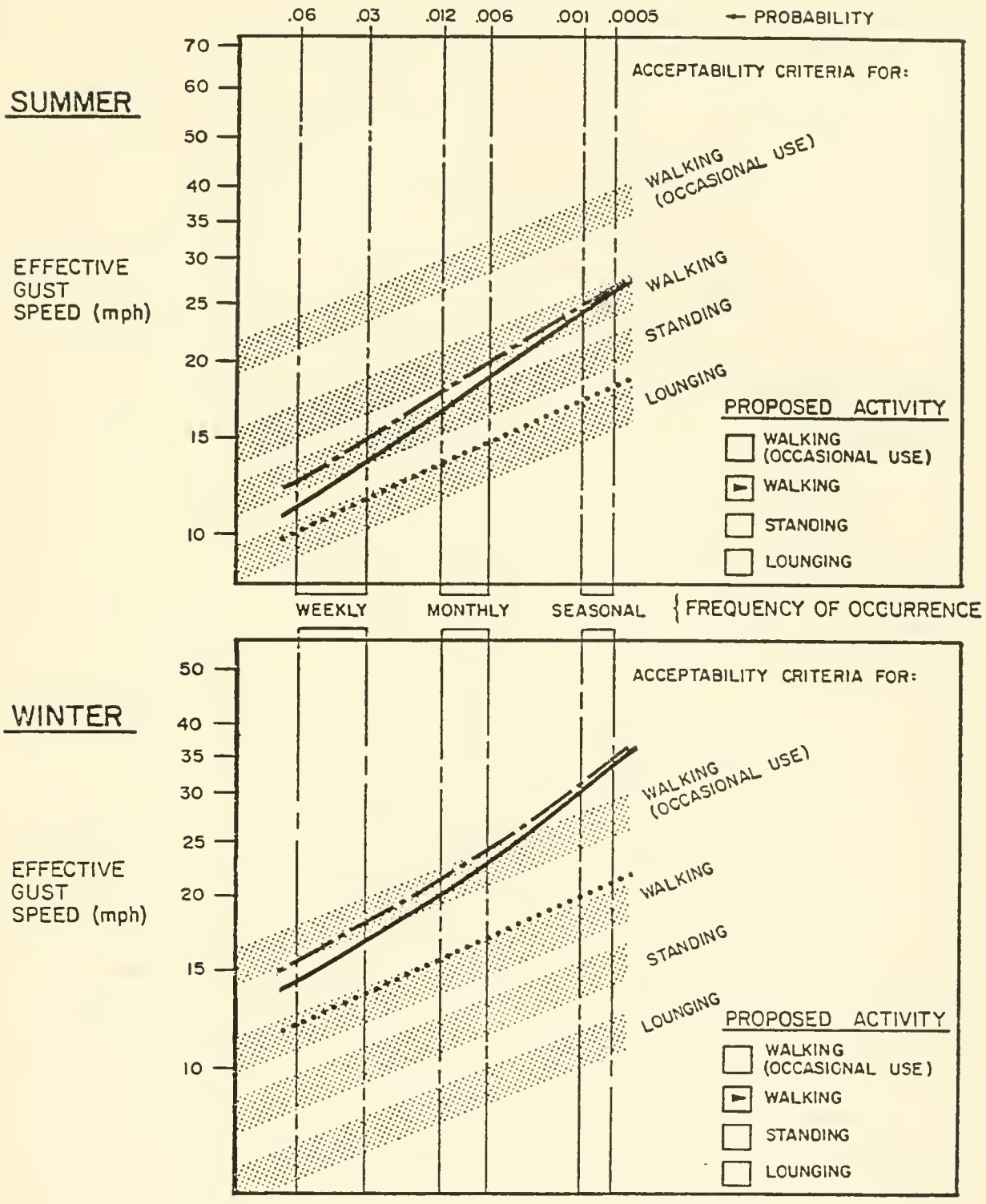
EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (21)



EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (22)



EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (23)



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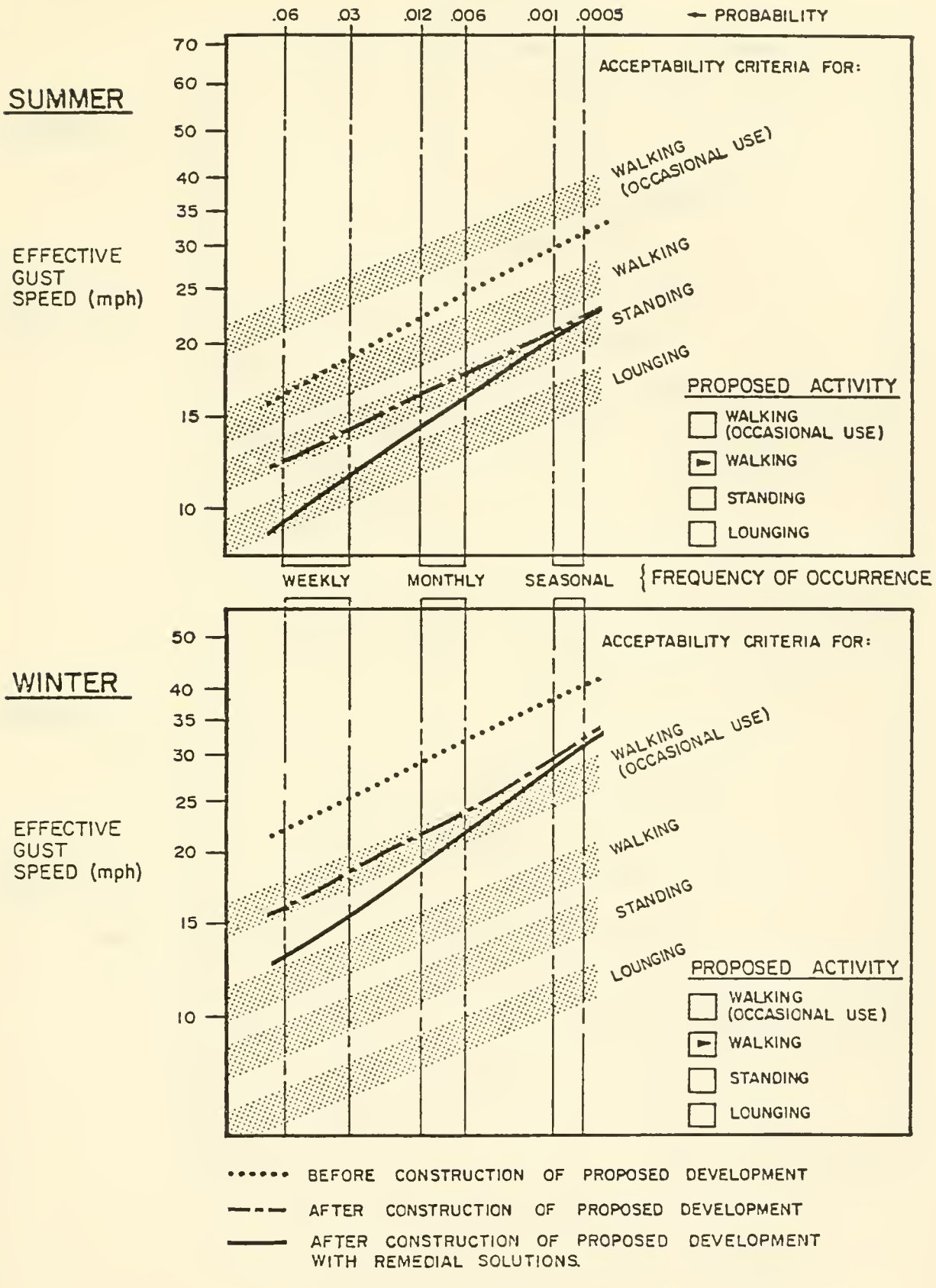
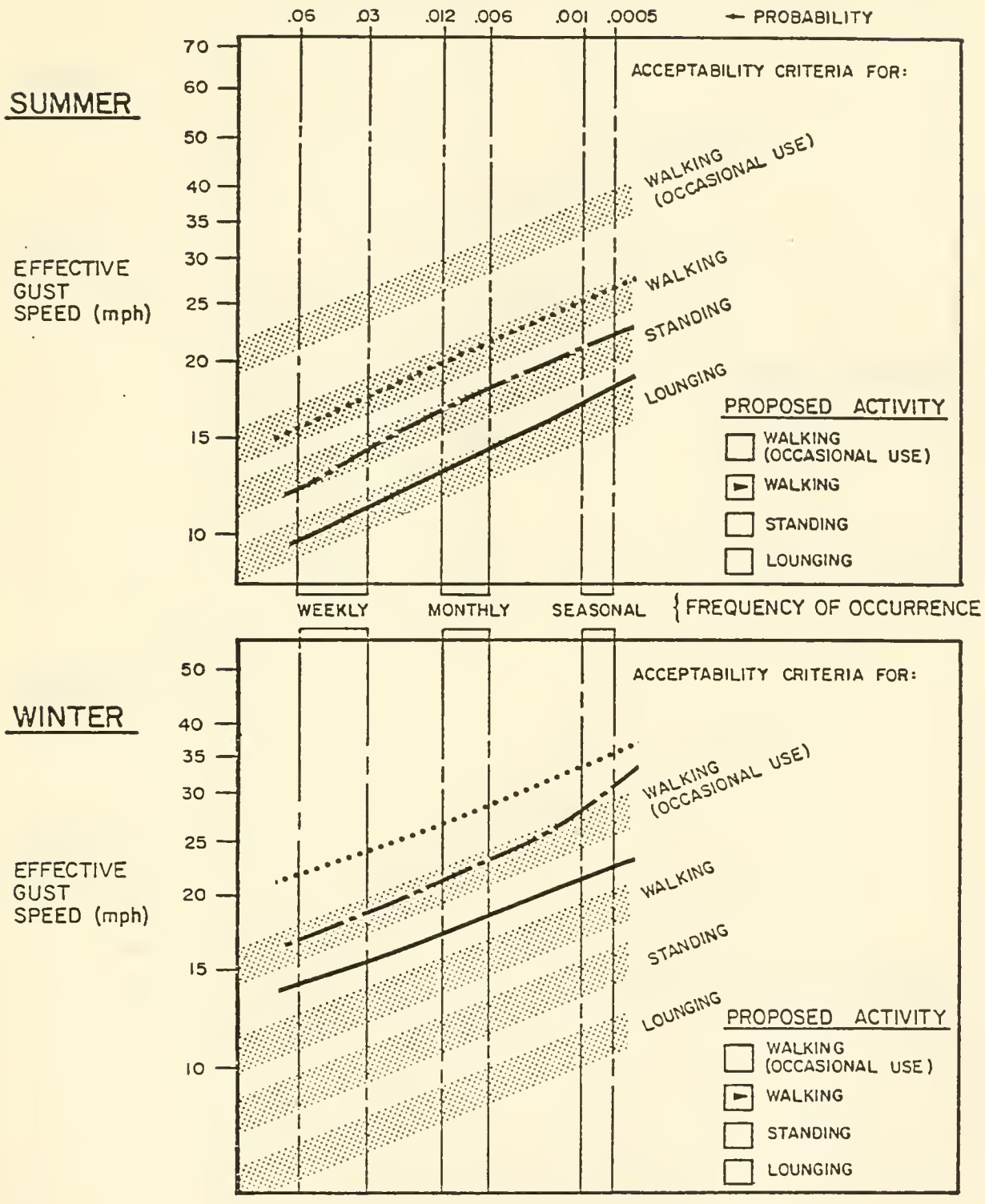
EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (24)



EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (25)



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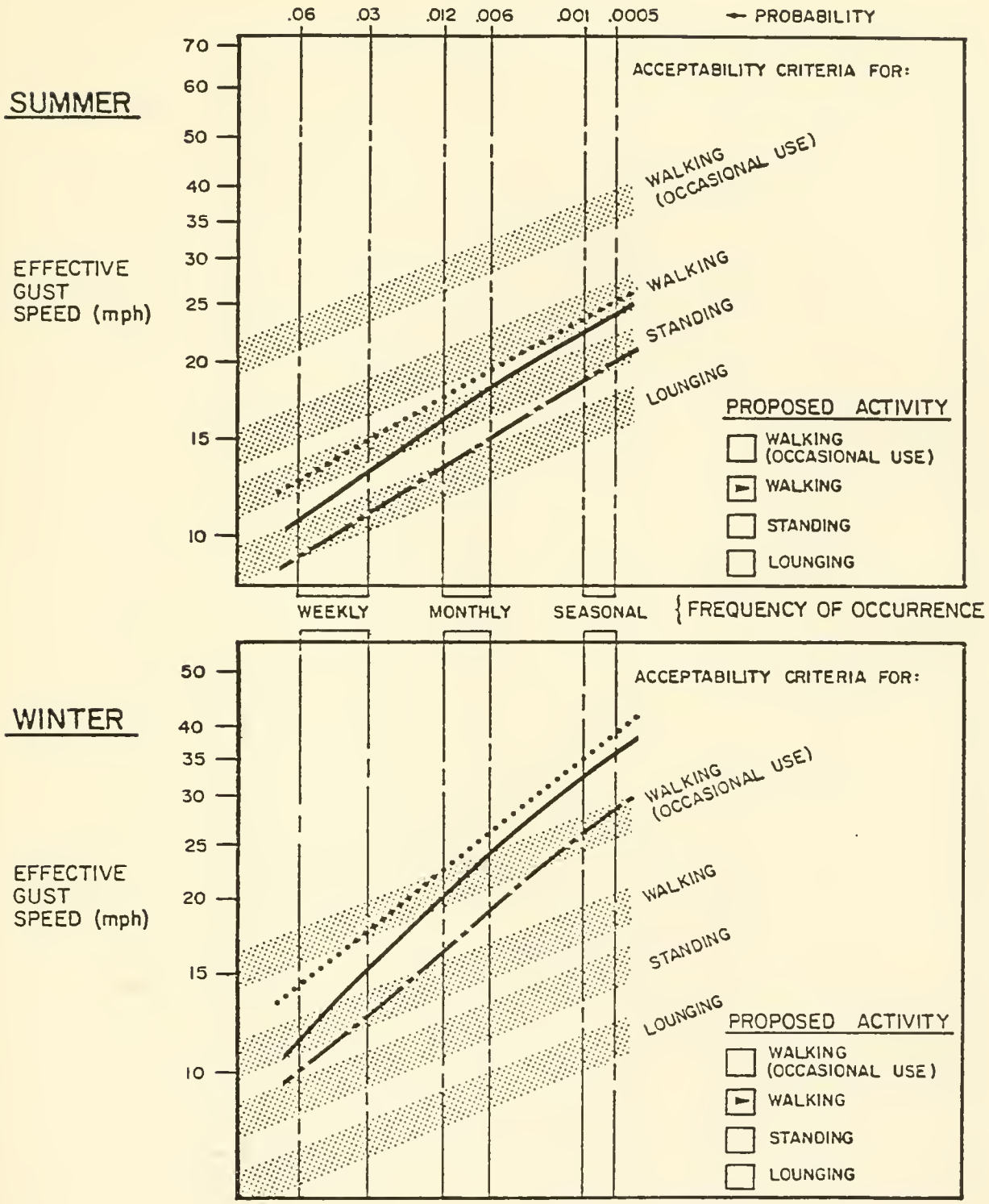
AFTER CONSTRUCTION OF PROPOSED DEVELOPMENT WITH REMEDIAL SOLUTIONS.

EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (26)

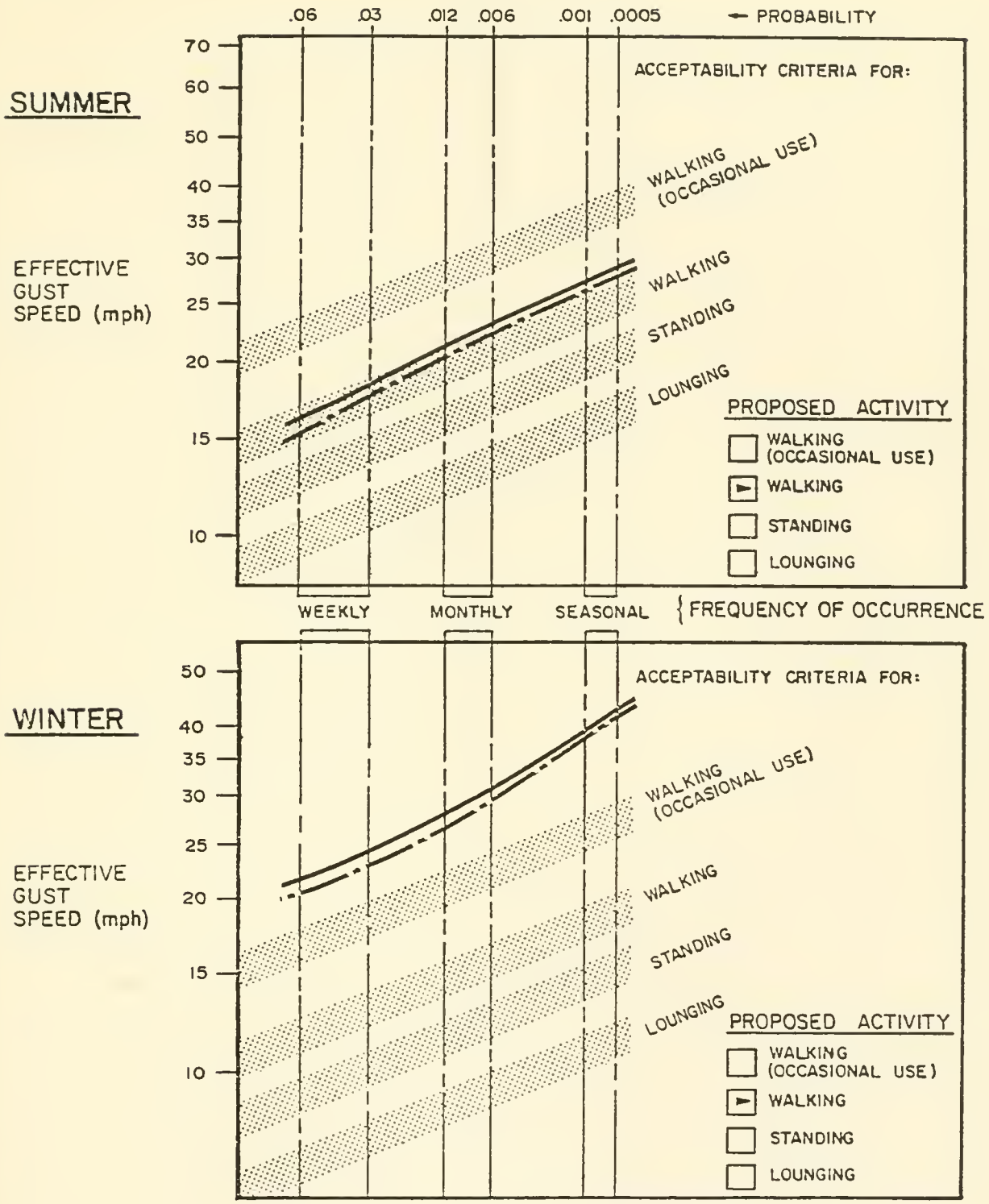


BEFORE CONSTRUCTION OF PROPOSED DEVELOPMENT

AFTER CONSTRUCTION OF PROPOSED DEVELOPMENT

AFTER CONSTRUCTION OF PROPOSED DEVELOPMENT WITH REMEDIAL SOLUTIONS.

EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (31)



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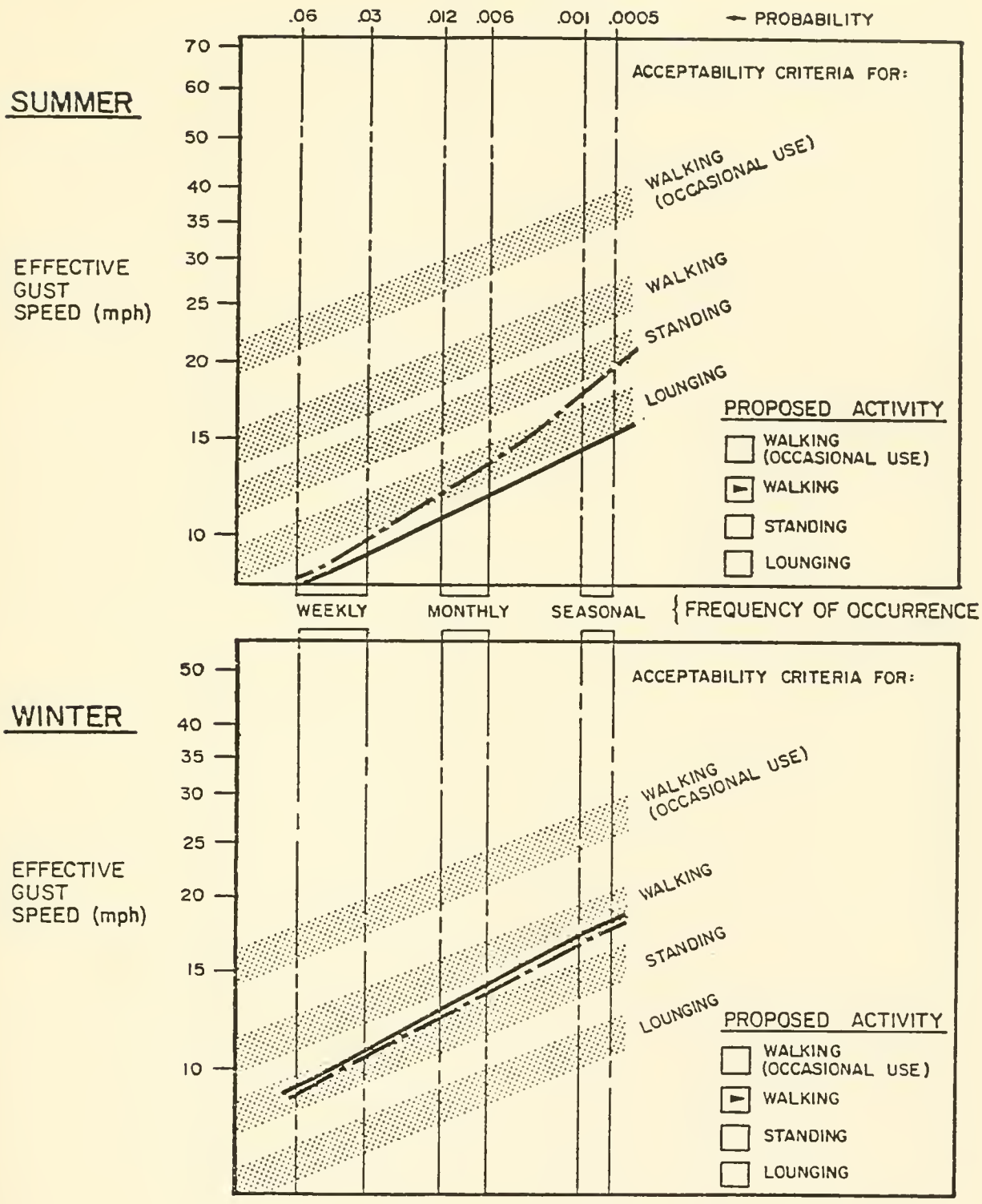
——— AFTER CONSTRUCTION OF PROPOSED DEVELOPMENT WITH REMEDIAL SOLUTIONS.

EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (32)



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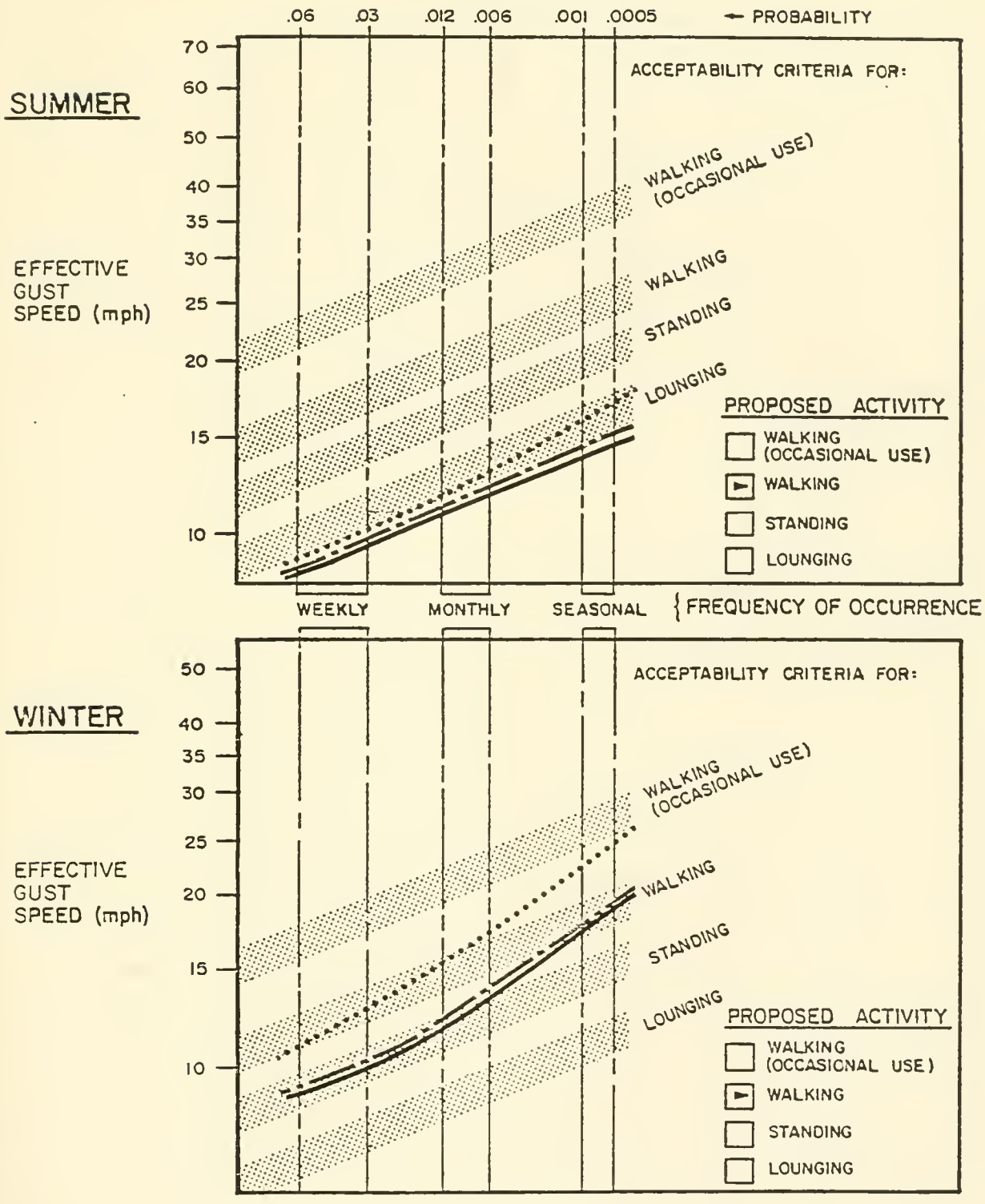
——— AFTER CONSTRUCTION OF PROPOSED DEVELOPMENT WITH REMEDIAL SOLUTIONS.

EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (33)



•••••• BEFORE CONSTRUCTION OF PROPOSED DEVELOPMENT

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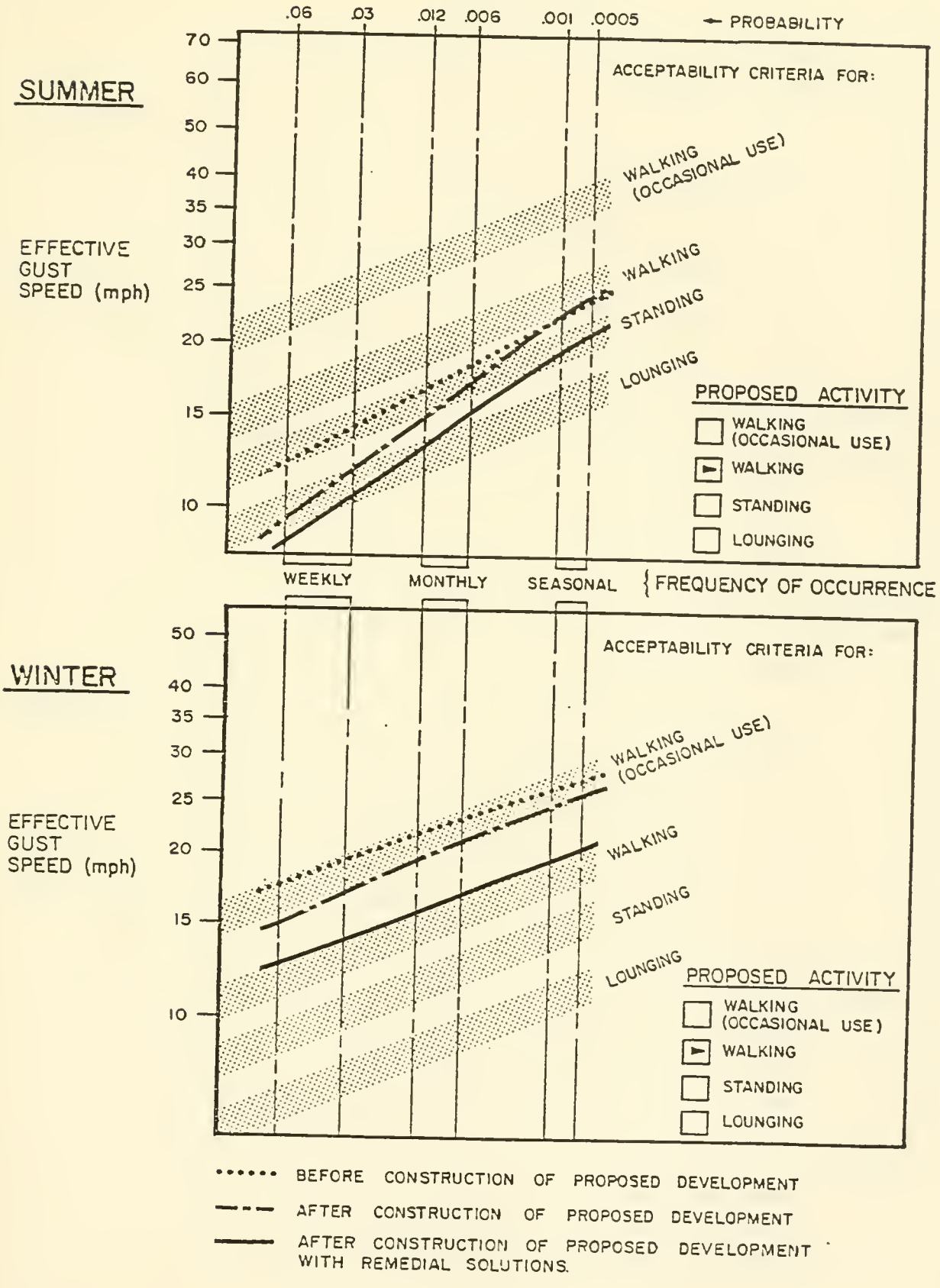
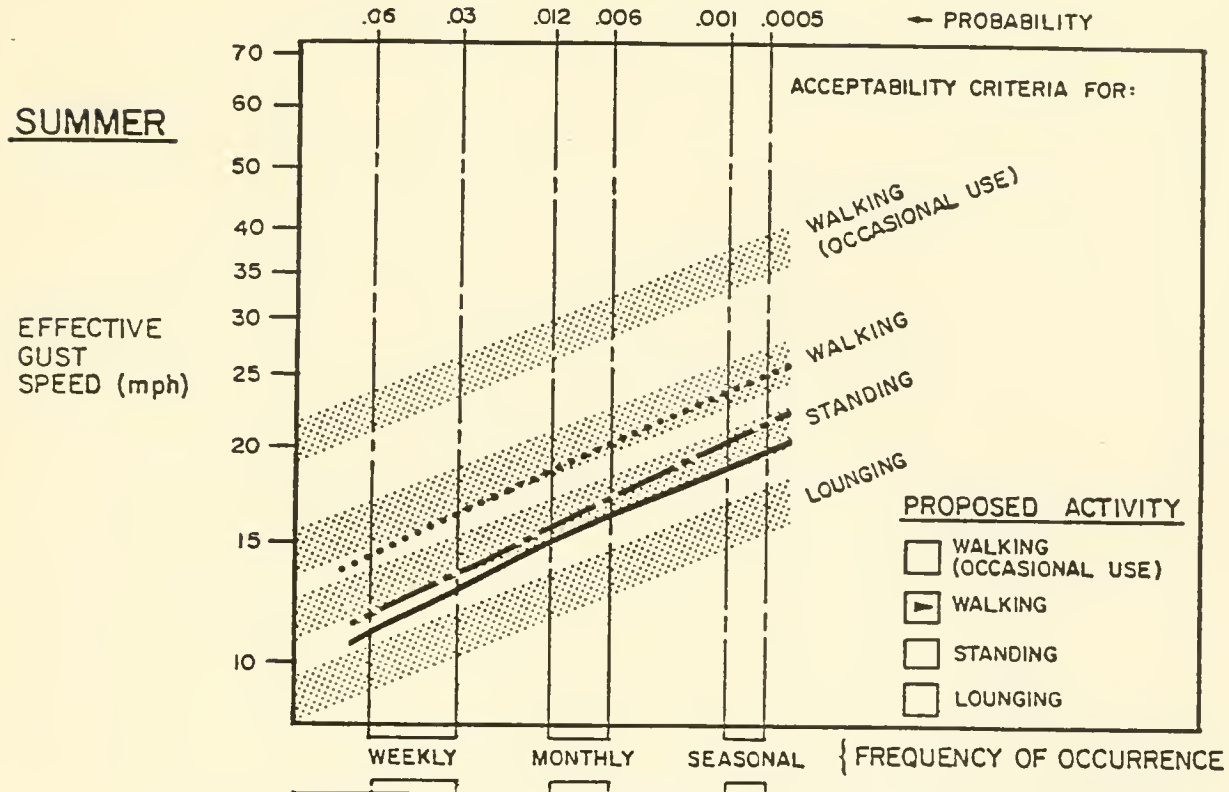
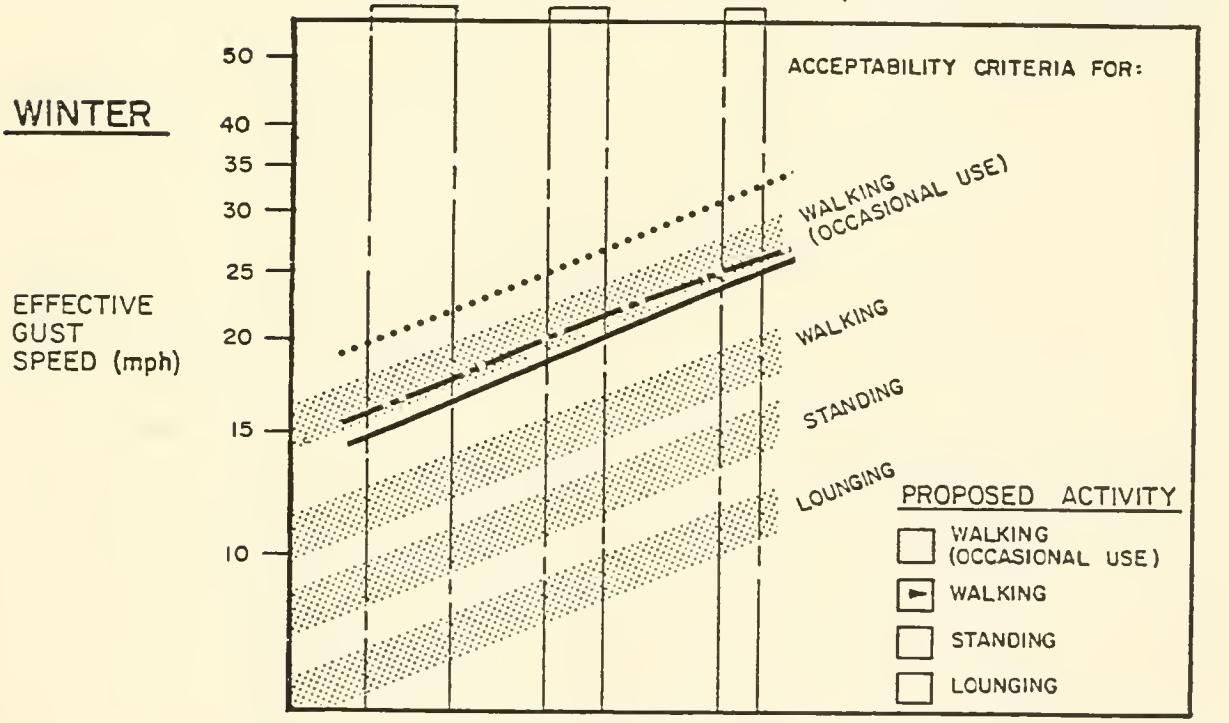
——— AFTER CONSTRUCTION OF PROPOSED DEVELOPMENT WITH REMEDIAL SOLUTIONS.

EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (34)



EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (35)



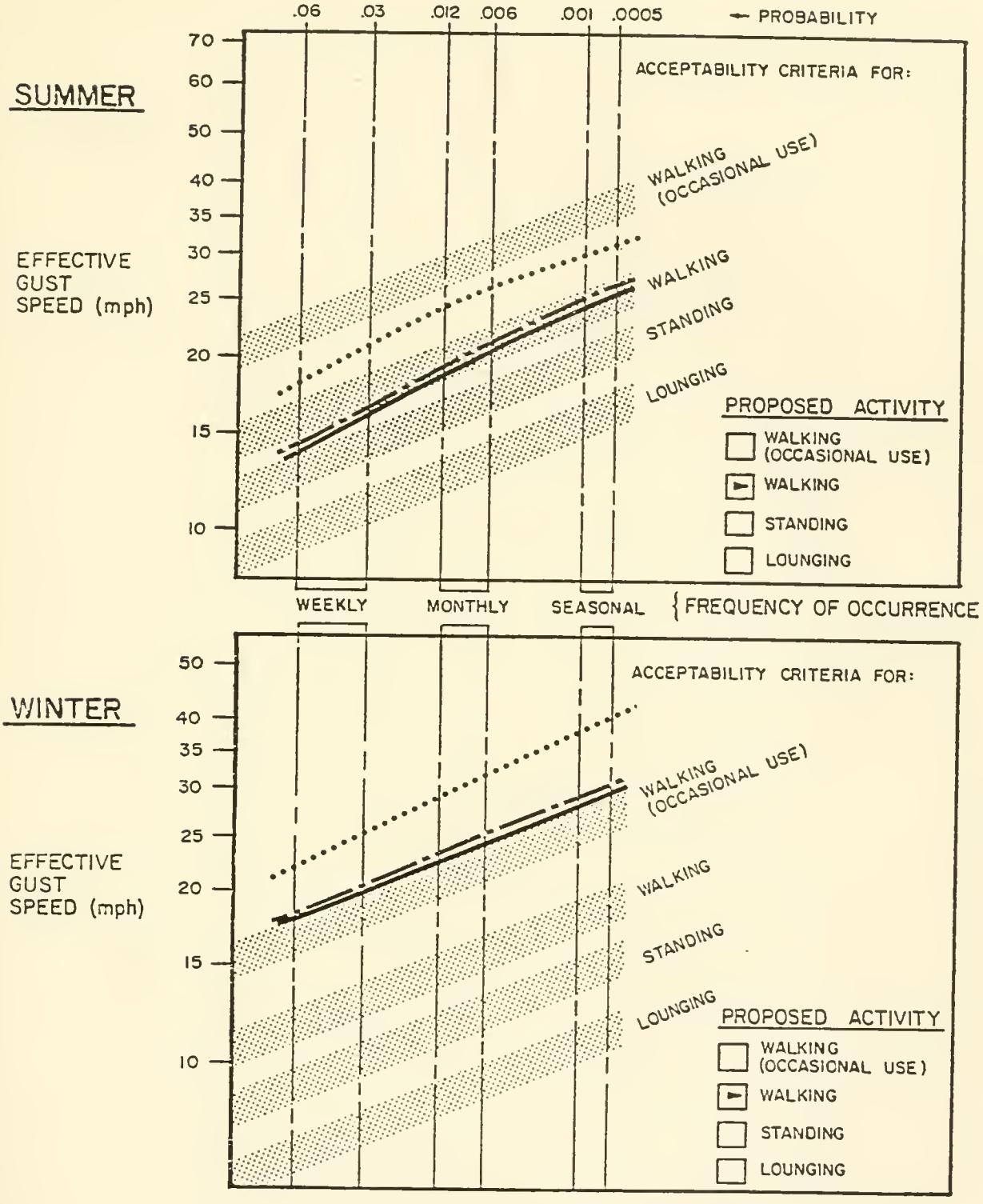


BEFORE CONSTRUCTION OF PROPOSED DEVELOPMENT

AFTER CONSTRUCTION OF PROPOSED DEVELOPMENT

AFTER CONSTRUCTION OF PROPOSED DEVELOPMENT WITH REMEDIAL SOLUTIONS.

EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (36)

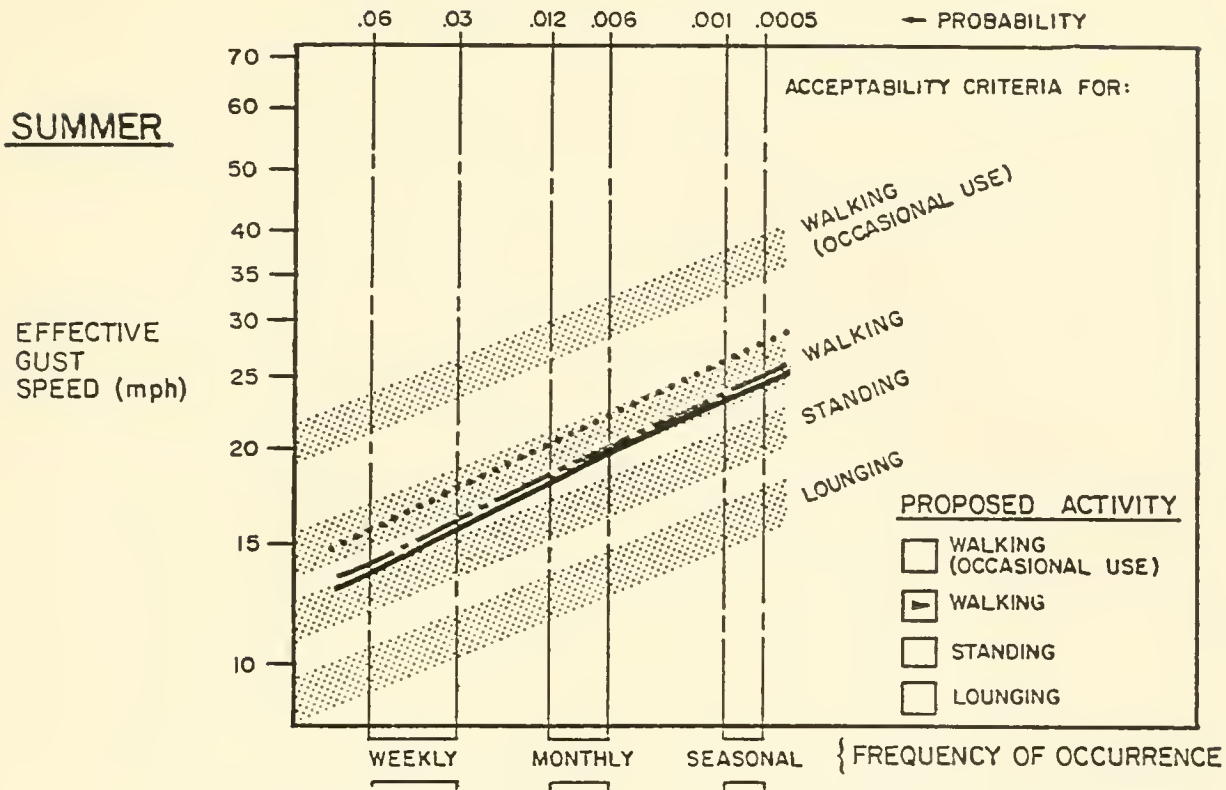


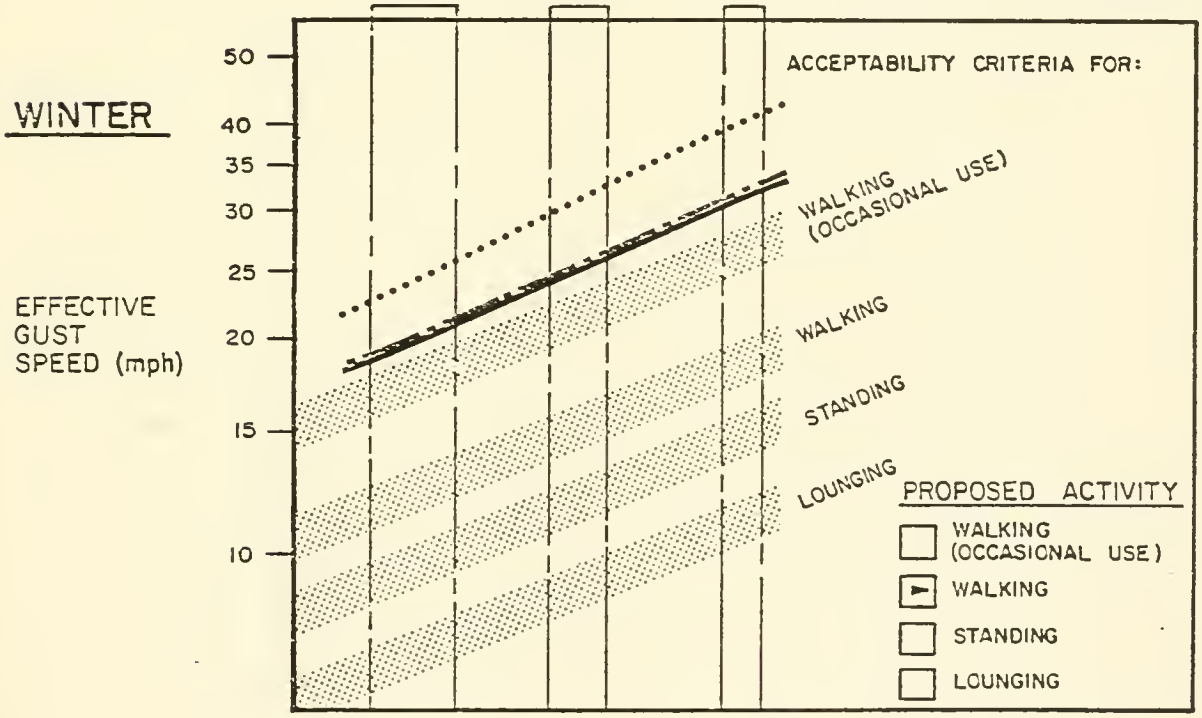
BEFORE CONSTRUCTION OF PROPOSED DEVELOPMENT

AFTER CONSTRUCTION OF PROPOSED DEVELOPMENT

AFTER CONSTRUCTION OF PROPOSED DEVELOPMENT WITH REMEDIAL SOLUTIONS.

EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (37)





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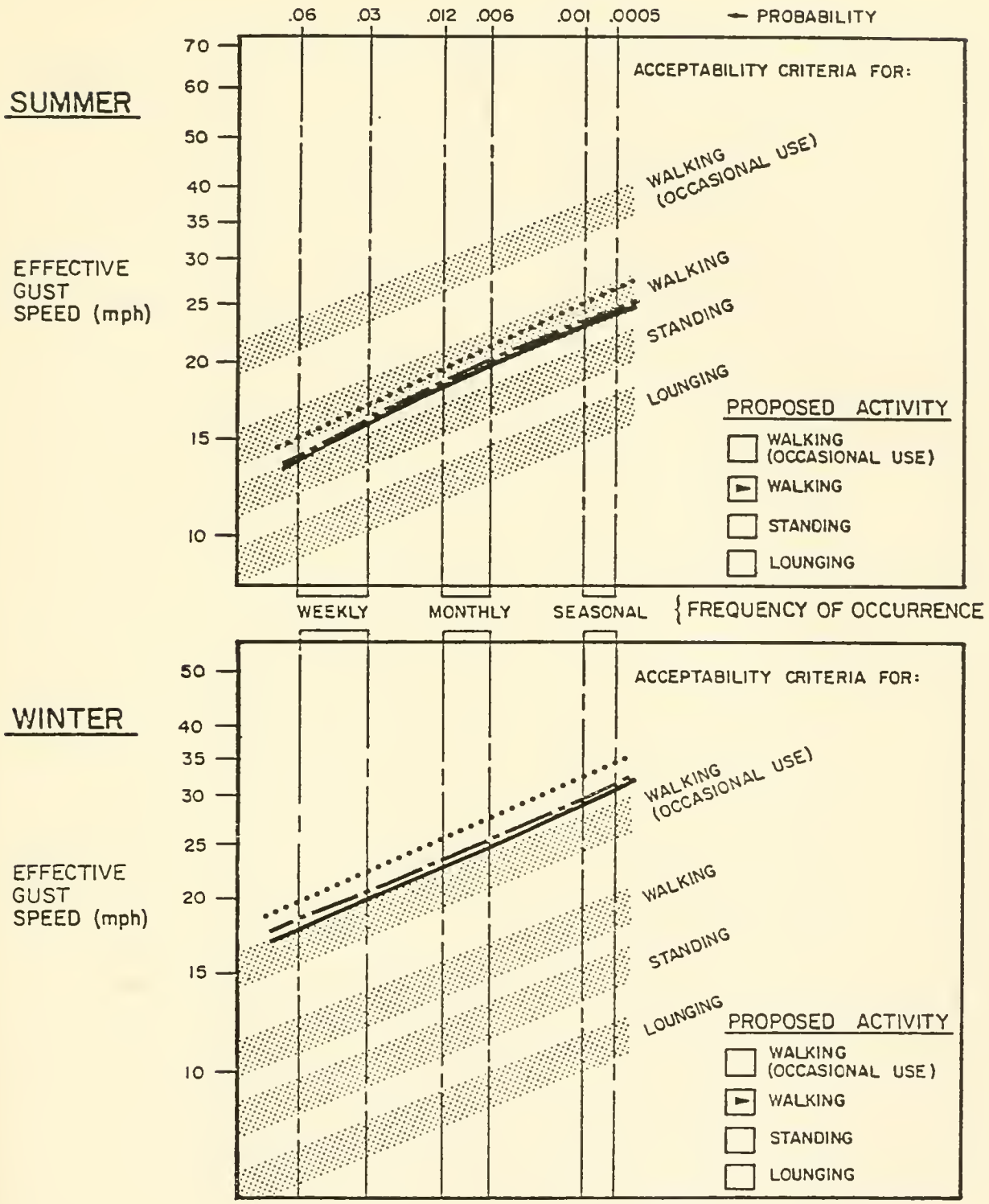
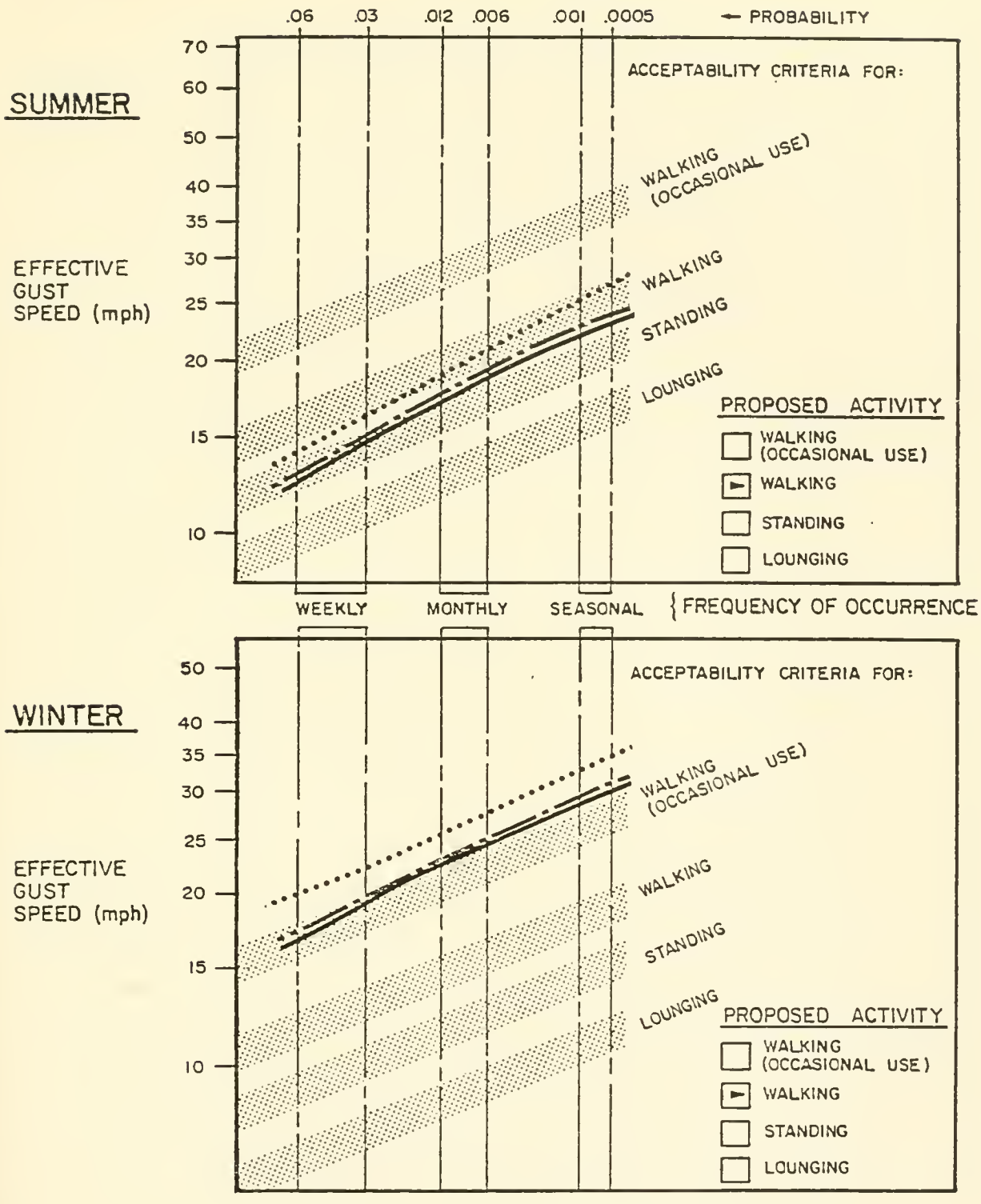
——— AFTER CONSTRUCTION OF PROPOSED DEVELOPMENT WITH REMEDIAL SOLUTIONS.

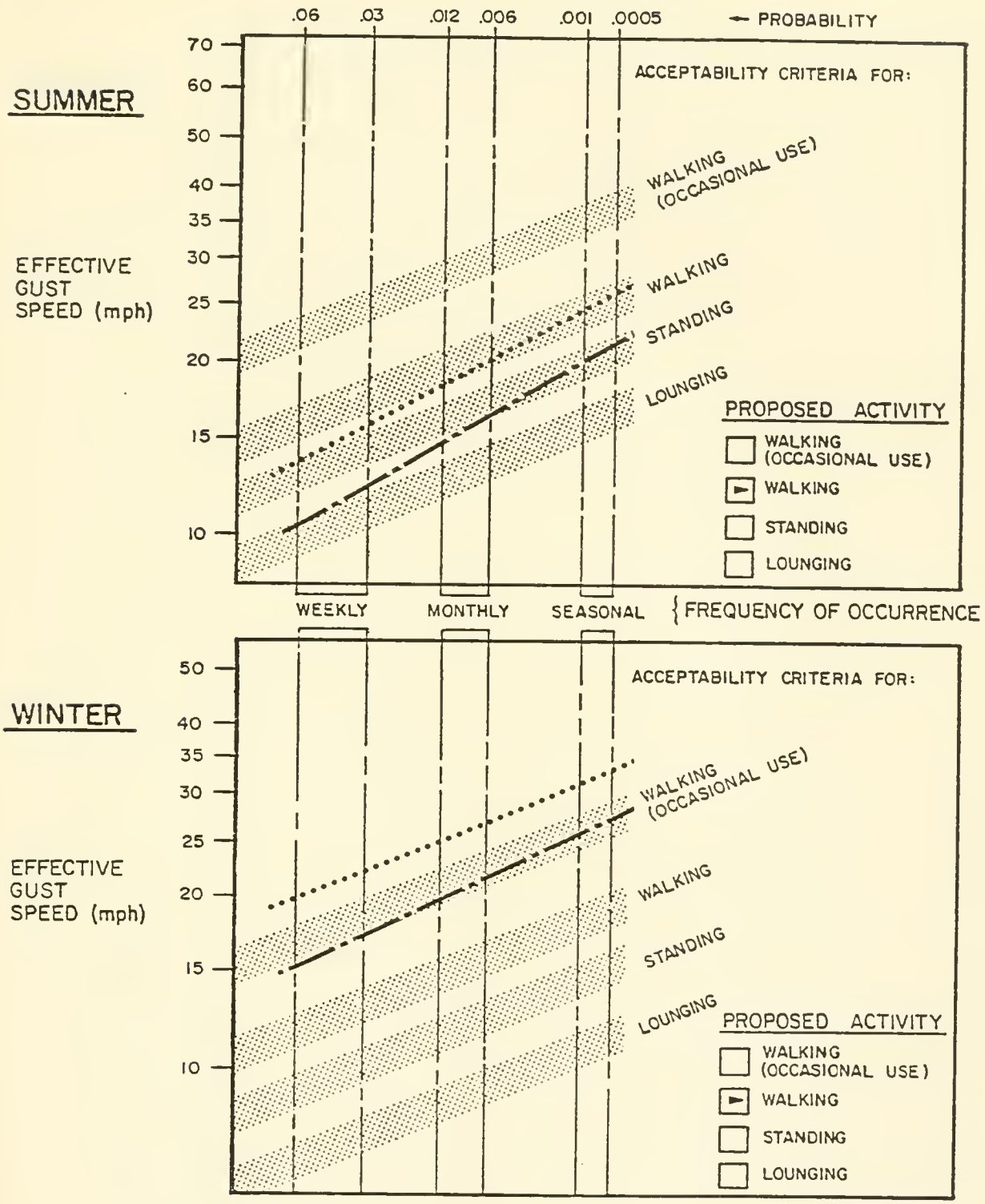
EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (38)



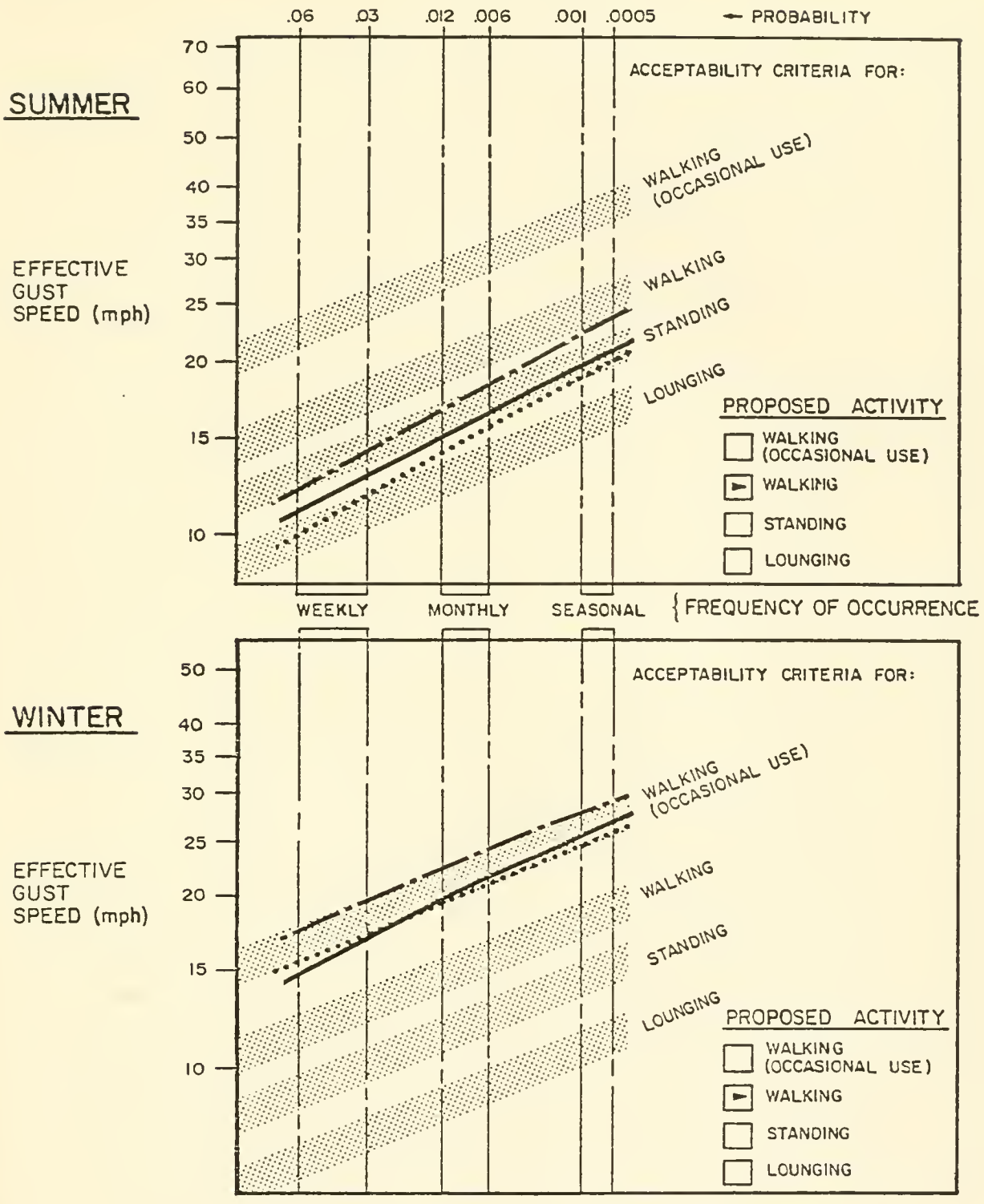
EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (39)



EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (40)



EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (41)



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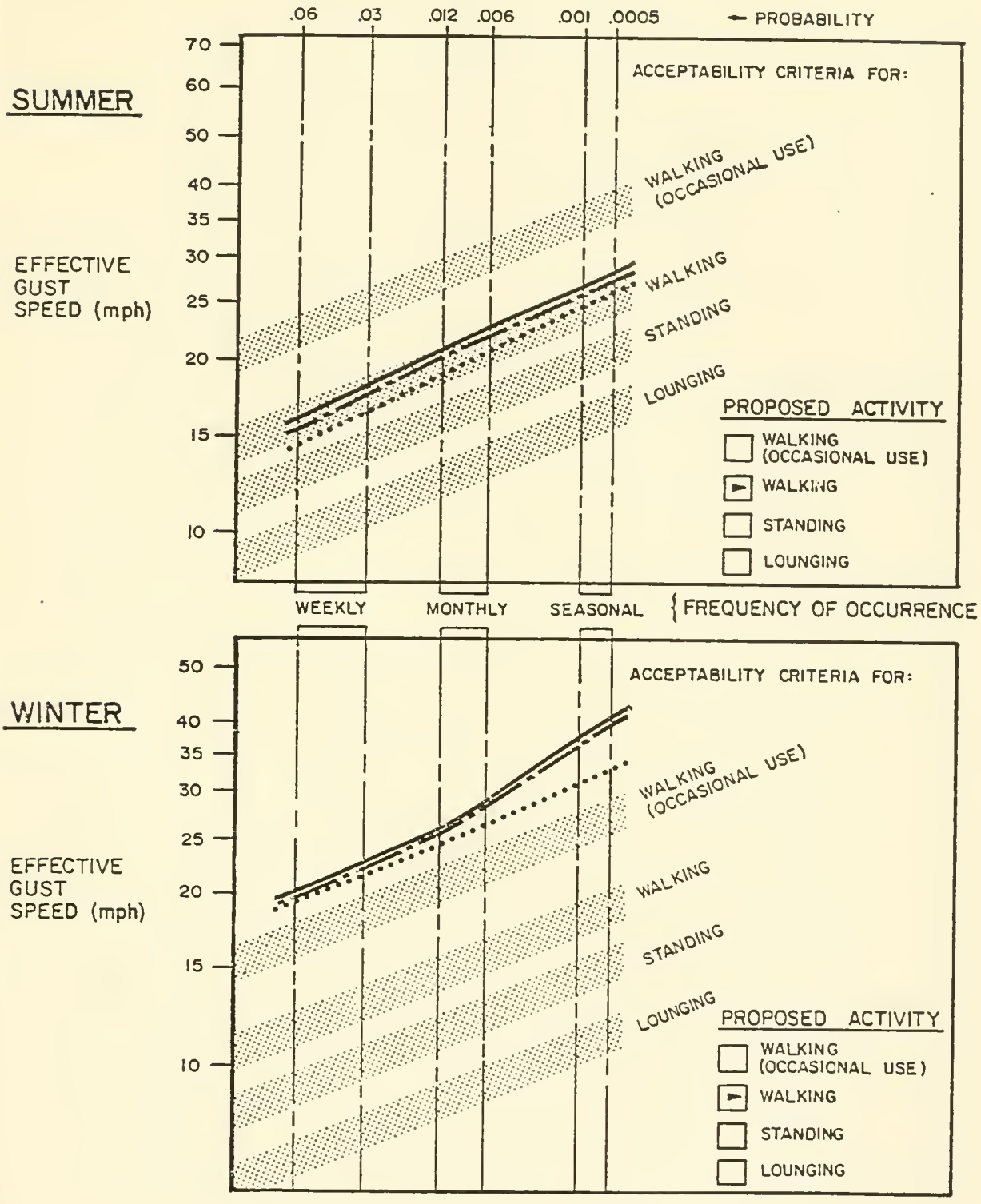

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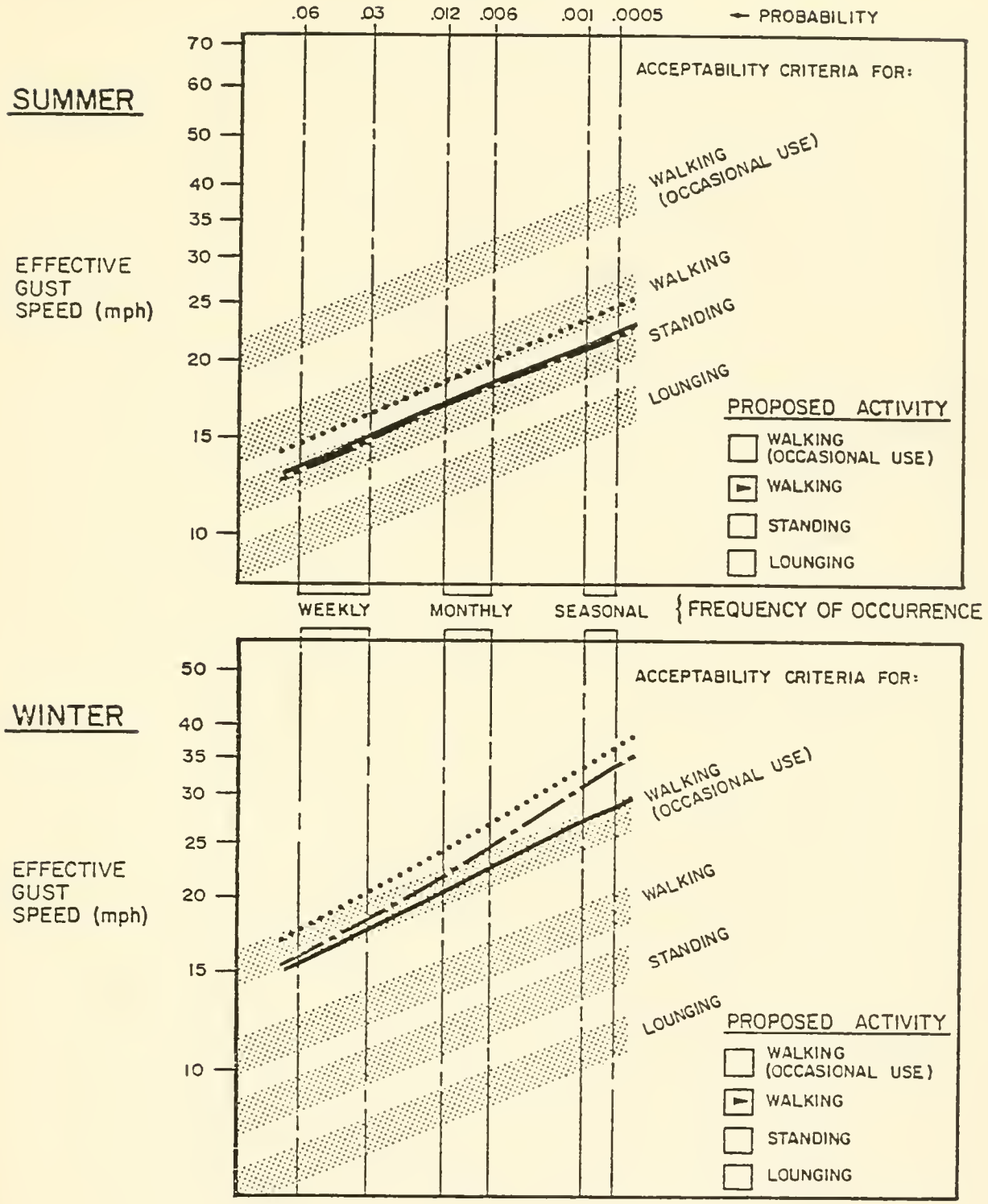

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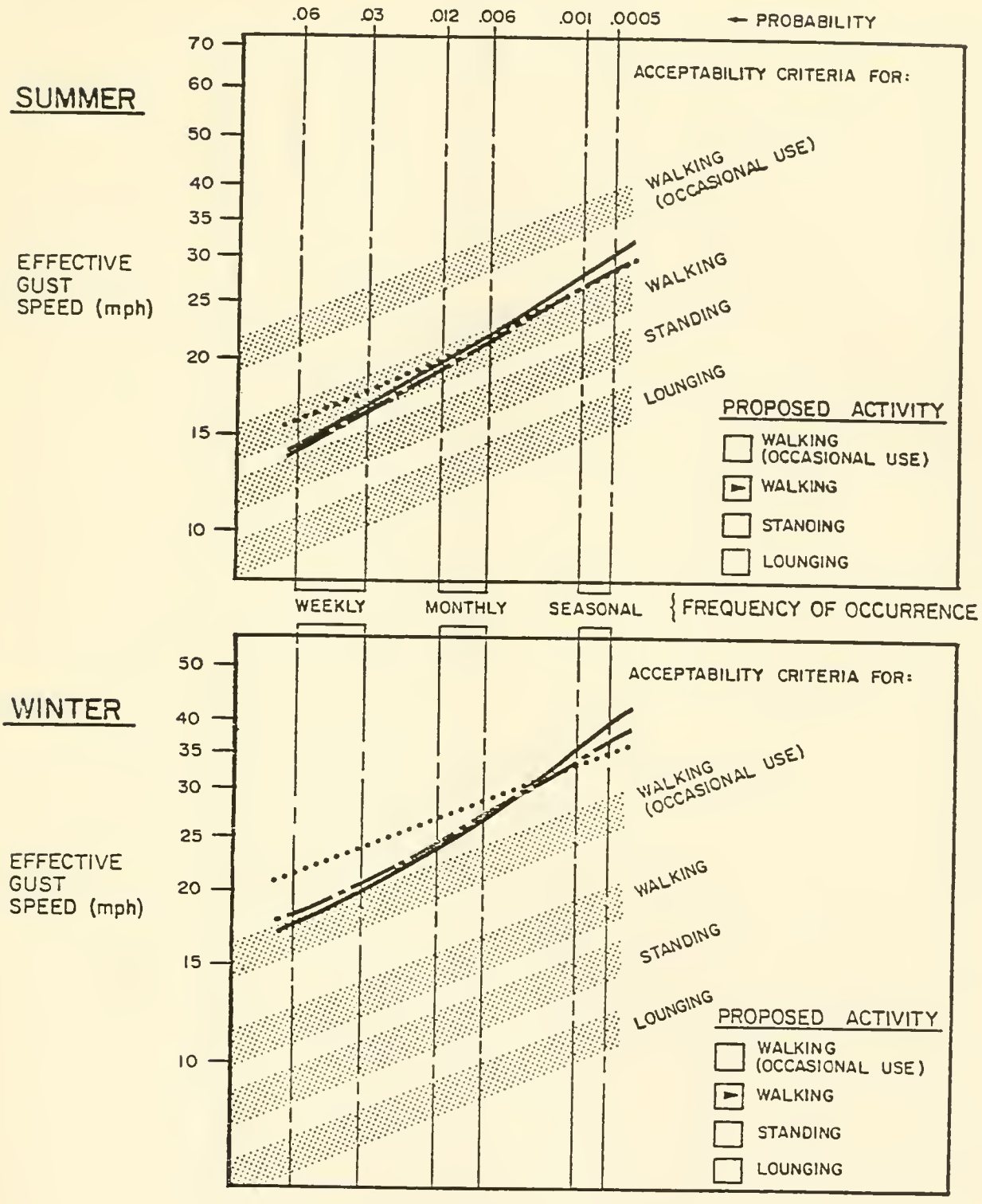

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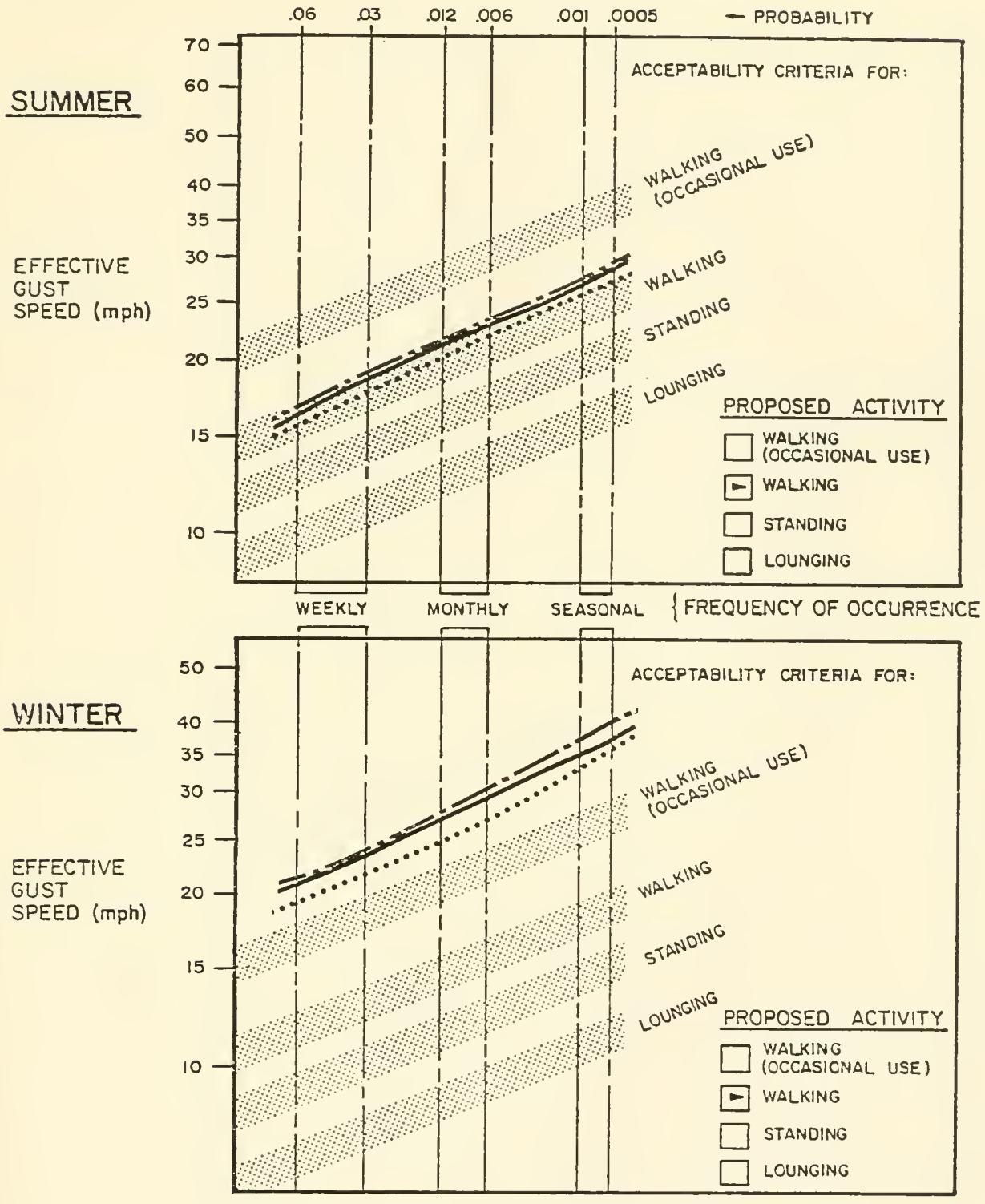

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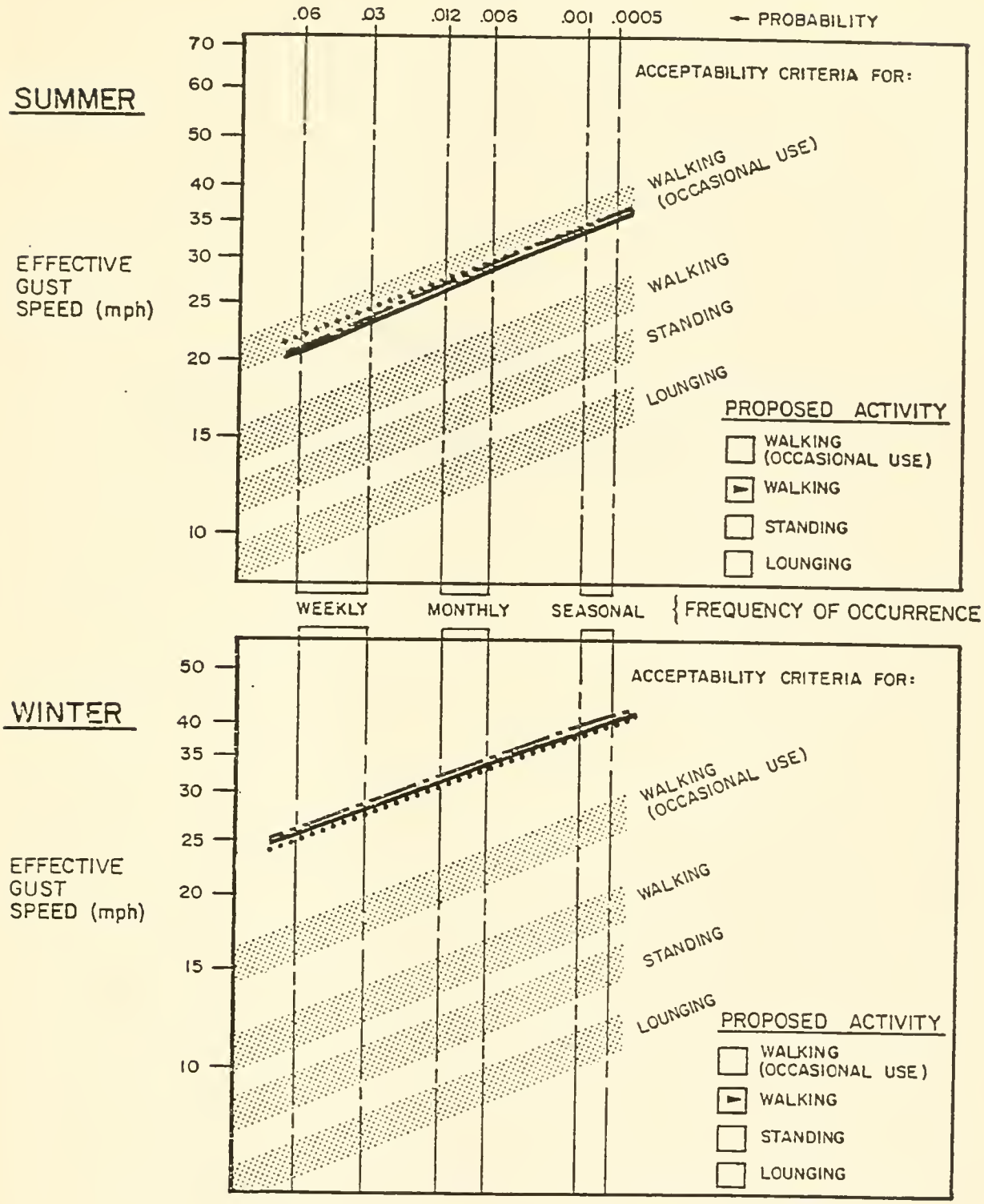
EFFECTIVE GUST SPEED AND RELATIVE COMFORT LEVEL AT LOCATION (46)



Appendix VI

Regulations for the Control of Noise in the City of Boston

THE CITY OF BOSTON

AIR POLLUTION CONTROL COMMISSION

BOSTON CITY HALL

BOSTON, MASSACHUSETTS 02201

REGULATIONS FOR THE CONTROL OF NOISE IN THE CITY OF BOSTON

Definitions
Regulation 1. General Prohibition of Noise Emissions
Regulation 2. Restrictions - Zoning Districts
Regulation 3. Restrictions - Construction Sites
Regulation 4. Restrictions - New Vehicles
Regulation 5. Restrictions - New Outdoor Powered Equipment
Regulation 6. Permits

Regulation X. Conflict with Other Regulations
Regulation Y. Variances
Regulation Z. Severability

The Air Pollution Control Commission of the City of Boston, acting under the authority granted in Chapter 40, Section 21 of the General Laws of the Commonwealth of Massachusetts, and by the City of Boston Code, Ordinances, Title 7, Section 50, hereby adopts the following Regulations for the Control of Noise in the City of Boston.

DEFINITIONS

1. COMMISSION means the Air Pollution Control Commission of the City of Boston, or its successor as may hereinafter be designated.

2. PERSON means an individual, partnership, association, firm, syndicate, company, trust, corporation, department, bureau or agency, or any other entity recognized by law as the subject of rights and duties.

3. NOISE POLLUTION means the presence of that amount of acoustic energy for that amount of time necessary to:

   a) cause temporary or permanent hearing loss in persons exposed;

   b) otherwise be injurious, or tend to be, on the basis of current information, injurious, to the public health or welfare;

   c) cause a nuisance;

   d) interfere with the comfortable enjoyment of life and property or the conduct of business; or

   e) exceed standards or restrictions established herein or persuant to the granting of any permit by the Commission.

4. Acoustical terminology used throughout these Regulations is that most recently approved as American Standard Acoustical Terminology by the American National Standards Institute (ANSI); except as may be specified otherwise herein.

5. dB is the abbreviation for decibel.

6. Hz is the abbreviation for Hertz, and is equivalent to cycles per second.

7. SOUND PRESSURE LEVEL (SPL) shall be numerically equal to 20 times the logarithm (to the base 10) of the ratio of the sound pressure to the reference sound pressure (the reference sound pressure shall be equal to 20 micropascals.) Unless otherwise stated, the level is understood to be that of a root-mean-square pressure.

8. dBA shall mean the A-weighted sound level in decibels, as measured by a general-purpose sound level meter complying with the provisions of the American National Standards Institute, "Specifications for Sound Level Meters (ANSI S1.4 1971)", properly calibrated, and operated on the "A" weighting network.

9. L_{10} LEVEL shall mean the A-weighted sound level exceeded ten per cent of the time.

10. DAYTIME shall mean the period between the hours of seven ante meridian (7:00 AM) and six post meridian (6:00 PM) daily except Sunday according to the time system locally in effect.

11. ZONING DISTRICTS shall mean the zoning districts and land uses therein as established by the Zoning Code of the City of Boston.

12. RESIDENTIAL USE shall include Use Items Numbers 1 through 15 inclusive and Number 53 of Section 8-7 of the Boston Zoning Code.

13. INSTITUTIONAL USE shall include Use Items Numbers 16, 17, 18, 20, 21, 22, 23, 24, 25, 29, and 33 of Section 8-7 of the Boston Zoning Code. It shall also include courthouses.

14. BUSINESS USE shall include Use Items Numbers 19, 26, 32, 34 through 52 inclusive, and 61 of Section 8-7 of the Boston Zoning Code.

15. RECREATIONAL USE shall include Use Items Numbers 27 and 28 of Section 8-7 of the Boston Zoning Code.

16. INDUSTRIAL USE shall include Use Items Numbers 68, 69, and 70 of Section 8-7 of the Boston Zoning Code.

17. MOTOR VEHICLE shall be defined as in the General Laws of the Commonwealth, Chapter 90, Section 1, titled Definitions.

18. LIGHT MOTOR VEHICLE shall be defined as all motor vehicles having a gross vehicle weight of 10,000 pounds or less.

19. HEAVY MOTOR VEHICLE shall be defined as all motor vehicles having a gross vehicle weight in excess of 10,000 pounds.

20. MOTORCYCLE shall be defined as in the General Laws of the Commonwealth, Chapter 90, Section 1, titled Definitions.

21. CONSTRUCTION shall mean any and all physical activity necessary or incidental to the erection, placement, demolition, assembling, altering, cleaning, repairing, installing, or equipping of buildings and other structures, public or private highways, roads, premises, parks, utility lines, or other property, and shall include land clearing, grading, excavating, filling, and paving.

22. CONSTRUCTION SITE shall mean that area within which a contractor confines a construction operation. This includes defined boundary lines of the project itself plus any contractor staging area outside those defined boundary lines used expressly for the construction.

23. CONSTRUCTION DEVICE shall mean any powered device or equipment, designed and intended for use in construction. Examples of "construction devices" are: Air compressors, bulldozers, backhoes, trucks, shovels, derricks, and cranes.

24. IMPACT DEVICE shall mean a construction device in which or by which a hammer, meaning a moving mass of hard solid material, is mechanically, by means of a working fluid, caused to repetitively impact upon and transmit kinetic energy to a tool. The tool may be included as part of the device, as in the case of a moil in a paving breaker or the drill steel of a jackhammer, or it may be a mass to which the impact device is temporarily connected as in the case of a pile and a pile driver. Examples of "impact devices" are: Pile drivers, paving breakers and power impact hammers, impact wrenches, riveters and stud drivers.

24a. PAVING BREAKER shall mean any hydraulically or pneumatically powered impact device intended to cut or trench pavement, subbase macadam, gravel, concrete or hard ground.

24b. PILE DRIVER shall mean an impact device designed or used for the driving of piles, columns and other supports into soil or other material by means of impact, vibrations, pressure or other means.

25. HOMEOWNER'S LIGHT RESIDENTIAL OUTDOOR EQUIPMENT means all engine- or motor-powered garden or maintenance tools intended for repetitive use in residential areas, typically capable of being used by a homeowner. Examples of Homeowner's Light Residential Outdoor Equipment are: Lawn mowers, garden tools, riding tractors, snow blowers, snow plows, etc.

26. COMMERCIAL SERVICE EQUIPMENT means all engine- or motor-powered equipment intended for infrequent service work in inhabited areas, typically requiring commercial or skilled operators. Examples of Commercial Service Equipment are: Chain saws, log chippers, paving rollers, etc.

REGULATIONS FOR THE CONTROL OF NOISE

IN THE CITY OF BOSTON

REGULATION 1: General Prohibition of Noise Emissions

No person or persons owning, leasing, or controlling the operation of any source or sources of noise shall willfully, negligently, or through failure to provide necessary equipment or facilities or to take necessary precautions, permit the establishment of a condition of noise pollution.

REGULATION 2: Noise Restrictions According to Zoning Districts

2.1 This Regulation shall apply to the use or occupancy of any lot or structure thereon and to the noise produced thereby, but shall not apply to the following:

a) The intermittent or occasional use, during the daytime, of homeowner's light residential outdoor equipment or commercial service equipment, provided said equipment and its use complies with other provisions of these Regulations;

b) Construction activities and the associated use of construction devices nor to the noise produced thereby, provided such activities, and such equipment and its use complies with other provisions of these Regulations;

c) The operation of any motor vehicle on any public way, nor to the noise produced thereby.

2.2 Noise in Residential Zoning Districts or Affecting Residential or Institutional Property

No person shall create or cause to be emitted from or by any source subject to Regulation 2, any noise which causes or results in a maximum noise level, measured at any lot line of any lot located in any Residential Zoning District or in residential or institutional use elsewhere in compliance with the Boston Zoning Code, in excess of any level of the "Residential District Noise Standard", Regulation 2.5; provided that if said lot is located in any Industrial Zoning District, the maximum noise level, measured at the lot line, shall not exceed any level of the "Residential-Industrial Noise Standard", Regulation 2.5.

2.3 Noise in Business Zoning Districts

No person shall create or cause to be emitted from any source subject to Regulation 2, any noise which causes or results in a maximum noise level, measured at any lot line of any lot in any Business Zoning District other than a lot in residential or institutional use in conformance with the Boston Zoning Code, in excess of any level of the "Business District Noise Standard", Regulation 2.5.

2.4 Noise in Industrial Zoning Districts

No person shall create or cause to be emitted from or by any source subject to Regulation 2, any noise which causes or results in a maximum noise level, measured at any lot line of any lot in recreational or business use in any Industrial Zoning District in conformance with the Boston Zoning Code, in excess of any level of the "Industrial District Noise Standard", Regulation 2.5.

2.5 Zoning District Noise Standards

Noise standards referred to in these Regulations for the several zoning districts of the City of Boston, as defined in and established persuant to the Boston Zoning Code, are as established by the following table:

TABLE OF ZONING DISTRICT NOISE STANDARDS

Maximum Allowable Octave Band Sound Pressure Levels

Octave Band Center Frequency Of Measurement (Hz)	Residential		Residential - Industrial		Business	Industrial
	Daytime	All Other Times	Daytime	All Other Times	Anytime	Anytime
31.5	76	68	79	72	79	83
63	75	67	78	71	78	82
125	69	61	73	65	73	77
250	62	52	68	57	68	73
500	56	46	62	51	62	67
1000	50	40	56	45	56	61
2000	45	33	51	39	51	57
4000	40	28	47	34	47	53
8000	38	26	44	32	44	50
Single Number Equivalent	60 dBA	50 dBA	65 dBA	55 dBA	65 dBA	70 dBA

REGULATION 3: Restrictions on Noise Emitted from Construction Sites

3.1 Except as provided for in Regulation 3.3 and 3.4, it shall be unlawful for any person to operate any construction device or devices on any construction site if the operation of such device or devices emits noise, measured at the lot line of the affected property, in excess of the values shown below:

Lot Use of Affected Property	L_{10} level	Maximum Noise Level
Residential or Institutional	75 dBA	86 dBA
Business or Recreational	80 dBA	--
Industrial	85 dBA	--

The same level shall apply to any public way as applies to an industrial use. Measurements should not be taken closer than fifteen (15) meters (50 feet) from the nearest active construction device on the construction site. The maximum noise level shall be measured on the sound level meter on "Slow" response.

3.2 The L_{10} level shall be determined in the following manner:

a) Every ten seconds, on the mark, the A-weighted noise level on the sound level meter on "slow" response is recorded until one hundred (100) observations have been made. If, during any of these observations, a measurement is substantially affected by any source outside the construction site (such as an aircraft overflight), measurements made during these periods will not be considered. However, the observation period shall be extended until 100 valid measurements are obtained. The L_{10} level will be that level that is equal to the tenth highest level recorded.

b) If, in the estimation of the person taking the measurements, outside noise sources contribute significantly to the noise level, the above procedure shall be repeated (with the same outside noise source contributions) when construction is inactive, in order to determine the existing background L_{10} level. The L_{10} level during construction must exceed the background L_{10} level by five (5) dBA to be considered a violation of Regulation 3.1

3.3 Except as provided for in Regulation 3.4, it shall be unlawful to operate a construction device at any street excavation, grading or repair, utility street work installation or repair, which produces a noise level exceeding 86 dBA at a distance of fifteen meters (50 feet) from the device.

The provisions of Regulation 3.1 shall not apply to any construction site covered by Regulation 3.3. The provisions of Regulation 3.3 will not be applicable to any construction device used in emergency service work that is necessary to return utility service to an area, provided that within 24 hours such device is brought into compliance with Regulation 3.3, or is not reused within the City until it does comply.

3.4 The provisions of Regulations 3.1 and 3.3 shall not be applicable to impact devices.

REGULATION 4: Restrictions on Noise Emitted by New Motor Vehicles

No person shall sell or lease a new motor vehicle that produces a maximum noise level, in dBA, exceeding the following limits (measured at a distance of fifteen (15) meters (50 feet) from the center-line of travel, in accordance with procedures established by the Commission), provided that at such time as the United States Environmental Protection Agency (USEPA) shall promulgate noise emission regulations or standards covering any class of motor vehicles, this regulation shall automatically be amended to prescribe noise emission limits identical to those of the USEPA for the class or classes of vehicles involved, without, however, in any way affecting the limits for vehicles for which the USEPA has not established regulations or standards. The preceding proviso is intended to satisfy the requirements of Section 6(e)(1)(A) of the Noise Control Act of 1972.

Date of Manufacture of Vehicle	Light Motor Vehicle	Heavy Motor Vehicle	Motorcycle
After January 1, 1970	--	88	88
Before January 1, 1973	86	--	--
After January 1, 1973	84	86	86
After January 1, 1975	80	84	84
After January 1, 1978	--	83	--
After January 1, 1982	--	80	75

REGULATION 5: Restriction on Noise Emitted from New Outdoor Powered Equipment for Sale or Lease - Other than Pile Drivers

No person shall sell or lease any new outdoor powered equipment that produces a maximum noise level, in dBA, exceeding the following limits (measured at a distance of fifteen (15) meters (50 feet), under test procedures established by the Commission); provided that at such time as the United States Environmental Protection Agency (USEPA) shall promulgate noise emission regulations or standards covering any product covered by this Regulation, this Regulation shall automatically be amended to prescribe noise emission limits identical to those of the USEPA for the product or products involved, without, however, in any way affecting the limits for other products for which the USEPA has not established regulations or standards. The preceding proviso is intended to satisfy the requirements of Section 6(e)(1)(A) of the Noise Control Act of 1972.

Date of Manufacture of Equipment	Homeowner's Light Residential Outdoor Equipment	Commercial Service Equipment a Construction Devices (other th Pile Drivers
After January 1, 1973	74	88
After January 1, 1975	70	85
After January 1, 1978	65	--
After January 1, 1980	--	80

REGULATION 6: Permits - General

6.1 A permit shall constitute permission to use or to allow the use of a device or to engage in an activity to which reference has been made in these Regulations or in the Ordinances of the City of Boston.

6.2 All applications for permits shall be made to the Air Pollution Control Commission in such form as it shall prescribe. Such application shall not relieve any person from otherwise complying with the provisions of these Regulations or any other law or ordinance.

6.3 Such permit shall include such provisions and conditions as the Commission may deem necessary to protect the public health, welfare and comfort.

6.4 Any permit required by these Regulations shall be displayed to any police officer or employee of the Air Pollution Control Commission upon request.

6.5 Any permit issued by the Air Pollution Control Commission under the provisions of these Regulations may be revoked for violation of any of the terms and conditions of such permit.

REGULATION X: Conflict with other Regulations

The noise regulations shall not relieve any person from complying with other laws, statutes, codes, regulations, or ordinances of the Commonwealth or the City of Boston.

REGULATION Y: Variances

The Commission may grant variances after public hearing or may reject applications on review without a hearing. Variances thus granted may be effective for no longer than one year.

REGULATION Z: Severability

Each of these Regulations shall be construed as sepatate to the end that if any Regulation or section, sentence, clause or phrase thereof shall be held invalid for any reason, the remainder of these Regualtions shall continue in full force.

A P P E N D I X VII

ARCHAELOGICAL REPORT

JAMES F. SULLIVAN
ATTORNEY AT LAW

ALLEN BRESS

ONE BOSTON PLACE
SUITE 1026
BOSTON, MASSACHUSETTS 02108
TEL (617) 742-0112
(617) 742-2280

September 21, 1982

Michael Joseph Connolly,
Secretary of State
Commonwealth of Massachusetts
Office of the Secretary of State
State House - Room 340
Boston, MA 02133

Re: Archaeological Survey
Parcel D-10

Dear Secretary Connolly:

I just wanted to take this opportunity to thank you and your staff for the excellent cooperation we received during the recent archaeological "dig" for our Marketplace Center project in Boston. Special praise must go to Valerie Talmage of the Massachusetts Historical Commission who coordinated the contract and the actual field work by the Museum of Afro-American History. Her competence and professionalism are a credit to the Commonwealth.

Very truly yours,

James F. Sullivan

JFS/dms

cc: Valerie Talmage

MASSACHUSETTS HISTORICAL COMMISSION

COMMONWEALTH OF MASSACHUSETTS
Office of the Secretary of State
294 Washington Street
Boston, Massachusetts
02108
617-727-8470

MICHAEL JOSEPH CONNOLLY
Secretary of State

September 22, 1982

RECEIVED
SEP 27 1982

James F. Sullivan
Marketplace Center Associates
187 State St.
Boston, MA

Dear Jim:

This is a quick thank you note for your cooperation on the D-10 project. I really appreciate all your help and time last week in getting the survey done. It was a pleasure to work with a developer who was both interested and straightforward.

I will keep in touch as the results come in from Beth Bower.

Sincerely,

Valerie Talmage

Valerie Talmage
State Archaeologist
Massachusetts Historical Commission

VT/sac

NEWSRELEASE

MICHAEL JOSEPH CONNOLLY Secretary of State

MASSACHUSETTS HISTORICAL COMMISSION

294 Washington Street
Boston, Massachusetts
02108
617-727-8470

AVAILABLE FOR RELEASE:

Immediately

FOR MORE INFORMATION CONTACT:

Peggy Twomey
Public Information Offic
Massachusetts Historical
Commission

An unusual liaison between archaeologist and developer is again disproving the myth that they are natural enemies. Attorney James Sullivan of Marketplace Center Associates has donated $15,000 to the Massachusetts Historical Commission to support an archaeological dig on the site of a proposed waterfront office building.

Secretary of State, Michael Joseph Connolly, Chairman of the Massachusetts Historical Commission, recently signed a cooperative agreement with Mr. Sullivan to fund the archaeological dig prior to construction of the new complex. The MHC has subcontracted with the Museum of Afro-American History to conduct the archaeological site examination under the direction of Valerie Talmage, State Archaeologist. The site, now a parking lot behind Quincy Market, was originally in the heart of Boston's 18th and 19th century waterfront.

"I am extremely pleased and gratified that Mr. Sullivan had the foresight to recognize the importance of salvaging important archaeological deposits. It is the responsiblity of our office to identify and evaluate important archaeological sites in Massachusetts and I am grateful that Mr. Sullivan has afforded us this unusual opportunity to examine our historic heritage," said Secretary Connolly.

James Sullivan, developer for Marketplace Center Associates, plans to construct an office building, ~~Marketplace Center~~ and retail center, on

OVER OVER OVER OVER OVER

land owned by the BRA, known as Parcel D-10. In signing the contract, Mr. Sullivan noted "Boston is a city full of history and it is an honor for me to have this opportunity to assist the MHC uncover Boston's archaeological past. I am privileged to be a part of this unusual team."

Parcel D-10 was open water until it was surrounded by wharfs in the early 18th century when it became an active part of Boston's inner harbor. Long Wharf and T Wharf, which bounded the south side of the area; were the major docks for Boston during the Colonial period, throughout the American Revolution and into the 19th century. The archaeological potential of an active harbor and docking area can be significant for several reasons. These include slippage of cargo during loading or unloading, the scuttling of obsolete vessels, or accidental sinking of viable ones, as well as the tendency to dump refuse into the harbor.

When landfilling for Quincy Market was completed in 1825, Parcel D-10 became Boston's central waterfront, acting as a docking area directly in front of the market. By the mid-1830's commercial activity on the waterfront was sufficiently prosperous that the city decided to buildt its own wharf, appropriately called City Wharf, in what is now the Parcel D-10 area. The 1840's and 1850's were boom years for Boston's commercial waterfront. Wharf property was the most productive real estate in Boston and the massive granite warehouses which

CONTINUED CONTINUED CONTINUED

lined the waterfront were filled with goods imported from the West Indies, California and the Far East. City Wharf remained a central part of the Boston Waterfront throughout the Civil War. The parcel survived as dock space until Atlantic Avenue was constructed in 1869, sealing off and filling the interior docking areas, including City Wharf.

Although some of the significant archaeological deposits have undoubtedly been disturbed by previous construction, historic features are likely to have survived. The archaeological significance of the remains which undoubtedly exist is presently unknown. However, the proposed development will destroy whatever materials have survived over the past 200 years. Therefore, this project will offer the City's only opportunity to retrieve a rare glimpse of the hub of Boston's 18th and 19th century waterfront.

Byron Rushing, President of the Museum of Afro-American History said "...the project should take about six weeks and will include 2 phases: historical research and field testings. Historical research will begin with a survey of maps, atlases, plans, photographs, and prints of the harbor area. The Museum will produce a composite site map to show historic buildings to aid field testing.

The field testing will include the drilling of 20 bores, the analysis of which will result in a contour map of the archaeological deposits on the site. Significant areas will then be tested for 3 days with a backhoe.

At the conclusion of the project, the MHC will summarize the history of the site and the recovered artifacts. Also, the Commission will make recommendations regarding the archaeological value of

the site and the need for further archaeological salvage. Marketplace Center hopes to display the artifacts in a museum planned for the new building. Construction is scheduled to begin in October.

MASSACHUSETTS HISTORICAL COMMISSION

COMMONWEALTH OF MASSACHUSETTS
Office of the Secretary of State
294 Washington Street
Boston, Massachusetts
02108
617-727-8470

MICHAEL JOSEPH CONNOLLY
Secretary of State

March 25, 1985

John Dobie
Marketplace Center
One Boston Place
Boston, Ma. 02109

Dear John:

Enclosed is a copy of Beth Bower's report on D-10. This is a draft final report, so please review it and let me know if you have any suggestions for changes. The maps and figures are pending.

Beth has made some recommendations for monitoring and study during construction. I'd like to talk with you and her about these before the construction begins.

The Museum will be filing for their final payment soon, so you will be hearing from me soon again on tying up the financial ends as well.

If you should have any questions, please do not hesitate to contact me.

Sincerely,

Valerie

Valerie A. Talmage
Executive Director
Massachusetts Historical Commission

Enclosure

VAT:jbm

Museum of
Afro American History
African Meeting House
Smith Court, off Joy Street on Beacon Hill, Boston, Mass 02114 Tel (617) 723-8863

Byron Rushing, *President*

LONG WHARF:
ARCHAEOLOGICAL TESTING AT
PARCEL D-10

Submitted by the

MUSEUM OF AFRO AMERICAN HISTORY

Beth Anne Bower, Staff Archaeologist
Claire Dempsey, Consulting Historian
Stephen Mrozowski, Consulting Archaeolgist
Byron Rushing, President

Submitted to

Massachusetts Historical Commission
294 Washington Street
Boston, Massachusetts

Come to church this Sunday.

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I. BORING LOGS

II. RECOVERED MATERIAL REMAINS

III. ANALYSIS OF MOLLUSCAN REMAINS FROM PARCEL D-10, BOSTON HARBOR

ACKNOWLEDGEMENTS

ABSTRACT

The testing program undertaken by the Museum of Afro American History has confirmed that significant archaeological remains of Long Wharf exist within the bounds of Parcel D-10. Two test trenches uncovered intact portions of the 1763 section of Long Wharf at 12 ft. below surface. The archaeologists retrieved 391 artifacts, faunal and floral remains and samples, many of which predate the American Revolution. It is probable that a portion of the original wharf exists in the easternmost 10 ft. of Parcel D-10. The boring results indicate that 1826 portions of Long Wharf are located at seven ft. below surface under what was Commerce Street.

Long Wharf was the focal point of Boston's harbor activity during the eighteenth century. The remains are significant because they can provide information on:

1. colonial wharf building technology
2. early Boston foodways
3. colonial crafts such as pottery making, glass manufacture and ship building
4. colonial and federal trade

The remains can also provide information on Long Wharf's change from servicing international and coastal trade to servicing the fishing industry and warehousing.

The Museum of Afro American History recommends that archaeologists be allowed to record the wharf structures uncovered during construction excavation and sample the material remains.

INTRODUCTION

Parcel D-10 in Boston, Massachusetts is soon to be developed by Marketplace Center Associates (Map 1). The Massachusetts Historical Commission determined in the Spring of 1982 that Parcel D-10 had a high potential for containing significant archaeological materials and should be investigated. James F. Sullivan of Marketplace Center Associates made a grant to the Massachusetts Historical Commission to cover the costs of the investigation. The parcel is presently owned by the Boston Redevelopment Authority.

The purpose of this project was to determine the integrity and archaeological significance of archaeological remains on Parcel D-10. This task was limited by the existing parking lots operations and utilities. Historical research and on-site borings were combined to minimize site disturbance and to predict locations of archaeological remains. The borings and the trench excavations all occurred during September 1982.

PROJECT LOCATION

Parcel D-10 is located in Boston, Massachusetts and is bordered by State Street on the south, Commercial Street on the west, and the Central Artery on the North and East (Map 2). The parcel contains two operating parking lots, the "Walkway to the Sea" (the restored cobblestone remnant of South Market Street), and a maintenance building associated with Quincy Market. The almost triangular shape of the lot is due to the right-of-way of the Central Artery

RESEARCH

METHODOLOGY

Map examination was the first and most informative aspect of the background research in Parcel D-10. Historical maps of many kinds were collected to provide a picture of the slow encroachment of wharves into the harbor from the west and south as well as the subsequent larger scale land filling operation in 1852. Few maps for the seventeenth and eighteenth centuries provide more than an outline of the Parcel D-10 area. The most useful maps focus closely on particular lots with great accuracy and detail and are located among the collection of plans drawn for the Registry of Deeds (Map 16). Late nineteenth century atlases and insurance surveys covered the city block by block and detail building structures. City maps dating from mid-century, notably those by McIntyre and by Slatter and Callan, also include building outlines and document a period of great change in the land mass in the Parcel D-10 area. Historic reconstructions compiled by Samuel C. Clough on deposit at the Massachusetts Historical Society contain a wealth of data on ownership from 1640 to the late nineteenth century (Maps 9 & 12).

When the map information had been collected, four maps were chosen to be redrawn on mylar sheets at a scale of 20 ft. = 1 in.[1] These were the 1852 "plan of City Wharf"

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[1]Prepared by Herb Heidt, Mapworks, Newton, MA.

(Maps 4 & 16), the 1867 Sanborn Insurance Map (Map 5), the 1899 Sanborn Insurance Map (Map 6), and the 1964 Boston Redevelopment Authority Map (Map 7). These maps (called overlays) could be placed on top of the existing base maps to determine the conjunction of historic structures and utilities, parking lot features, and previous borings. They also enabled us to choose boring placements which would avoid foundation walls and penetrate buried archaeological remains (see Boring Procedures for further details).

Additional visual information on Parcel D-10 came from prints and photographs. Panoramas of the city and views of the waterfront and of specific blocks and buildings were located. Although rare for this area, they did provide more detailed information on the building types that covered the site and helped to determine the type of subsurface pattern the site would have.

Documentary sources provided data necessary to identify and interpret the sequence of structures located by the maps. Secondary sources on the city's history provided both a context for study and some details on the important wharves and buildings in the area. Primary sources were consulted for site specific information. The changes in area businesses were charted from information in directories, almanacs, and the Direct Tax of 1798. A title search on a sample property illustrated ownership over time as well as the limits of the individual's property. The voluminous records of the Proprietors of the

Long Wharf were sampled and the minutes of their meetings, both in the original and in abstract, provided insight into their plans and motivations. Another view of these sites and their developers was provided by records of Boston's town and selectmen meetings and municipal histories. These dealt frequently with the extent to which obligations were met and nuisances avoided by the Proprietors.

The following is a summary of the documentary and visual record which outlines the history of the filling and use of Parcel D-10 from the construction of Long Wharf in 1711 through the final filling in the 1850s. The information provided a basis for judgemental placement of test borings and a framework within which to analyze the materials uncovered from the ground.

HISTORICAL BACKGROUND

The history of Parcel D-10 illustrates the development of Boston's waterfront and its growth and change through time. As shown on Map 8, Parcel D-10 was under water when the town was founded in 1630. The area west of Parcel D-10 was quickly developed during the seventeenth century and contained important town buildings, the market, and the town house. The town cove was developed in 1641 "for the purpose of building wharves and warehouses" (Whitehill 1968:11). Town merchants also built wharves out into the harbor in a process called "wharfing out" (Maps 9 & 10). The earliest major wharf project

was known as the Sea Wall, Barricado, or Outwharves. Begun in 1673, the Barricado was conceived as protection for the harbor during the Third Anglo-Dutch War. It extended across the harbor for more than 2,000 ft., from Captain Samuel Scarlet's wharf on the north to the Boston Sconce or South Battery on the south. Individual investors received portions of the area on which to build and the Barricado was armed. It was never fully utilized and fell almost immediately into disrepair. This was primarily because no Dutch attack occurred and because accessibility to both the Barricado and the inner harbor was difficult. Only a few portions of it survived into the eighteenth century as the "island wharfs" (Whiehill 1968: 19-20).

The development of Parcel D-10 did not begin until the early eighteenth century. To facilitate analysis the parcel has been divided into three parts: Long Wharf, The Channel, and City Wharf. Long Wharf, the southern part of Parcel D-10, reached its maximum size in the parcel at 146 ft. north of the intersection of State and Commercial Streets. The Channel, the area which was open water until 1852, is the area north from Long Wharf to 274 ft. north of the intersection of State and Commercial Streets. City Wharf is the northern part of the parcel.

Long Wharf

In 1707, Henry Deering suggested the construction of a wharf to extend from the bottom of King Street (now State

Street) to the Barricado (Map 10). It was argued that not only would accessibility and defence be vastly improved by this new wharf, but also that the town, in a period of continued expansion, would increase its available wharfage and warehouse space. In 1710 a group headed by Oliver Noyes came forward to provide the capital required and the plan for Long Wharf was accepted by the town (BRC 10:152)[2] The Boston Pier or Long Wharf extended east from the end of King Street through the commonly held flats to the Barricado. Encroachment from neighboring wharves was prohibited by a 60 foot privilege to the north and south. The investors or Proprietors were requied to include a 30 foot extension of King Street, to allow the town's inhabitants to dock on one side, and to provide a gap in the length to allow boats to pass (BRC 8:66, 67). The wharf extended 24 feet to the north of the extension to accommodate warehouses, for a total width of 54 feet. Little information on construction methods are available, but many sources describe the initial build as including the debris from the 1711 fire that burned the area from School Street to Dock Square (Winslow 1881:II, 504). Shortly after the wharf was completed the Proprietors agreed to divide the northerly 24 ft. into individually owned wharf lots for the construction of warehouses. For each share in

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[2]BRC refers to the 39 volumes of records published by the Boston Records Commissioners between 1876 and 1909. It will be followed by volume and page numbers.

the wharf, the owner received a warehouse lot of 40 ft. in length and 20 ft. in width in the westerly division, and another lot 24½ ft. by 20 ft. in the easterly division. They continued to hold in common the thirty foot passage to the south, a four foot passage to the north of the warehouses, as well as the end of the wharf (SCD 25:48).[3] Proprietors could sell the stores they built on the wharf separate from their interest or shares in the commonly held portions of Long Wharf.

The Proprietors' early records show that the group regulated many aspects of wharf activity. The owners were requied to be

> subject to the rules and regulations for the management and improvement of the whole wharf or pier and upholding the same in good order and repair and in such manner and methods as are already or shall further be agreed on by the major part of the proprietors and entered in their book. (SCD 25:48)

Initially, these rules included maintenance of both the four foot section behind and the thirty foot public way before the warehouses. Further, not only were the plan dimensions of the warehouses predetermined, but also the height (21½ feet stud) and roof pitch (5 feet), as well as the requirement for dormer windows. These tall narrow warehouses can be seen in Bonner's well-known map of the town in 1722, as well as Revere's view of 1768 (Map 10, Fig. 1). These views

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[3]Suffolk County Registry of Deeds, book; page.

show that, in spite of prohibitions against it, Proprietors built on their eastern division lots before it was sanctioned by the group. The Proprietors strove to limit the use of the structures to merchant activities. The first activity to be specified as unacceptable was sailmaking in 1722, followed by the ominous presence of a billiard table in 1738. Concern over fires was high, understandable in a city of frame structures. Renters and storeowners were discouraged from living on the wharf because this was seen as a fire hazard. However, the Proprietors also had trouble obtaining watchmen and realized the benefit of a resident and paid the troublesome Mr. Moberly £5 (Proprietors Minutes, Vol. I, passim).

Almost from the beginning, individual shareholders and the Proprietors as a body went beyond the limitations of their agreements with the town. During the two year construction period the Proprietors extended the wharf beyond the Barricado and well past low water mark to ensure accessibility by ocean-going vessels. By 1731 shareholders had made "several additions on the north side . . . for which in our [the town] opinion they have no authority in the grant of flats" (BRC 12:26). The Proprietors also neglected their maintenance responsibilities. By 1734 the end of Long Wharf was decaying because, in the opinion of the town, "the foundation . . . was not at first faithfully laid, and performed." There were complaints that the common way was not "unencumbered" and that the Proprietors "constantly demand and exact

wharfage" on the south side of the wharf "though they belong to our own inhabitants" (BRC 12:144-145). These indictments failed to curtail the activities of the Proprietors and their privileges were soon expanded. In 1765 the Proprietors petitioned for a northern expansion of 20 ft. throughout the length of the wharf saying they would build "an additional building to each store . . . of undoubtable service to the town" (BRC 18:89-90).

After the middle of the eighteenth century the fortunes of Long Wharf declined with those of the port of Boston. The port was eclipsed by the trowth of New York and Philadelphia to the south and its citizens suffered as taxes increased while trade diminished. More and more often the Proprietors turned their income toward expenses and repair rather than distribute it among themselves. Repairs became increasingly more necessary and expensive and the Proprietors found it difficult to gather their number to act to preserve their investment. In addition to their approved northward widening, the Proprietors rebuilt the wharf's east end at this time, as well as making storm repairs accounting for substantial debts requiring shareholder assessments. Their records indicate that crib construction continued to be employed. In 1772, the Proprietors incorporated, thereby clearly outlining the rights and responsibilities of shareholders. Delinquent Proprietors, who refused to pay rates levied, might find their share on the auction block to raise necessary funds (Proprietors Minutes, Vol. 1, passim).

During this time period Boston was the center of colonial dissatisfaction with crown policies. In 1768 British troops were stationed in the town. On March 5, 1770 the Boston Massacre took place on King Street (now State Street) a few blocks west of Long Wharf. The Boston Port Bill was passed by the House of Commons in 1774 in response to the Boston Tea Party. This act prohibited the loading or unloading of ships in any part of Boston Harbor. Military stores and food and fuel cleared through the customs officer (who was moved to Salem) were excepted. The act took effect on June 1, 1774. The port remained closed until the British withdrew from Boston on March 17, 1776. During the almost two year period, commerce all but ceased in Boston, with the exception of the coastal trade and the importation of the growing numbers of British troops and their supplies. Long Wharf was in the center of these activities as the primary docking point of the British troops. From Long Wharf the attack on Breed's Hill and Bunker Hill was launched on June 17, 1775 (Morris 1976:90-103; Warden 1970).

The shifting fortunes of the port of Boston brought changes in the use to which the warehouses were put by their owners and occupants. Through the eighteenth century Long Wharf warehouses were valuable to their owners, in many cases remaining in the hands of the same family in much the same way that corporation shares did. But after the war the wharf deteriorated and many owners ceased to use their Long Wharf

property as their basis of operation, turning them into rental properties. By 1798 only 3 of the 14 Long Wharf stores in Parcel D-10 were owner occupied. In addition, it is difficult to determine from extant records of this period the quality of maintenance and the extent to which the warehouses were rebuilt. The Hales Map of 1814 indicates that stores 17-25, included in the eastern section of Parcel D-10, were by then constructed of brick (Map 14).

Although the importance of the port of Boston diminished with the growth of New York to the south, its citizens continued to associate together to improve the waterfront and to maintain the importance of Long Wharf in the maritime economy. The Broad Street Associates turned first to the confusion of wharves to the south of Long Wharf early in the nineteenth century. They filled the area and laid out Broad and India Streets following the line of the new shore. India Wharf (1803) and Central Wharf (1819) pushed into the harbor and uniform brick warehouses and a Custom House were constructed to accommodate the wealth generated by the China Trade (Map 14). These large and modern facilities attracted the majority of commission and general merchants away from Long Wharf.

In the 1820s the City of Boston undertook a major construction project northwest of Long Wharf, the Fanueil Hall market development. Commercial Street became the eastern extent of the shoreline and was connected to State Street by

the taking of stores 9, 10 and 11 on Long Wharf (Map 15). The Proprietors, responding to the development of the area, petitioned and received their third extension to the north. The total addition measured 78 ft. from the then current northern boundary of the stores, and extended from store #12 at the corner of Commercial Avenue east through store #34. The Wharfinger, Elijah Loring, oversaw the construction and pro-rated the costs among the storeowners. Costs included pile driving, ranging from 39 piles at store #12 to 99 piles at #17, as well as breaking up earlier construction. Stores 17 through 24 were charged for "digging and removing stones of old sea wall," while stores 25 through 34 bore the expense of "digging and removing old boxing plank" (Proprietors Receipts/Accounts, June 1825). This expansion allowed storeowners to build an additional 20 ft. to the north, and in fact, the Proprietors required that this be completed within a year so that "the line may be full, uniform, and regular" (Proprietors Minutes, 13 April 1825). With this addition, Long Wharf reached its maximum size in Parcel D-10.

It was during this antebellum period that the old age of Long Wharf became a hindrance to the Proprietors. The economy of the port improved after the War of 1812 while inland railroad development, the pre-eminence of the clipperships and the establishment of the Liverpool packet meant that waterfront improvements continued. Still more new and exceptionally fitted-out wharves competed with and hurt the

corporation (Map 17). Like the rest of the nation they suffered during the Depression which began in 1837. At the same time, one author suggests, the Wharfinger during this period mismanaged the pier (Forbes 1915:52). By the mid-1840s, fewer than 20% of the city's commission merchants and 10% of the ship-owning general merchants were located on Long Wharf. Perhaps due to the proximity of the provisioning center at Faneuil Hall Market, Long Wharf became a center for three quarters of dealers in salt and pickled fish, as well as the location of the salt house and fish inspectors. It also attracted the city's flour dealers.

After a special meeting to determine how best to "prevent the declension of its value" in 1844, the Proprietors came up with a plan to improve their facilities, including rebuilding stores on the east end of the wharf, deepening the channels on either side, and leasing the whole to a manager for development (Proprietors Minutes, Vol. 3, passim). At the same time they chose to sell their rights to the 50 ft. dock area north of their wharf to just east of Commercial Avenue to Josiah Quincy, explicitly for the filling (Proprietors Records, Miscellaneous Deeds). This meant that stores #12 through 34 were no longer wharves, but part of a newly developed commercial land area (Map 5). At the same time, the areas which had been held by the corporation, the passages to the north and south of the individually held stores, were turned over to the city for public ways. The Quincy

deed explains that the 88 ft. area behind these stores would be maintained as a public way, Commerce Street. Negotiations were taken up with the Proprietors of the adjacent Central Wharf and Wet Dock Company to fill in a section of the slip they shared before the Custom House and to construct the State Street Block on the south side of State Street from Gridley J. F. Bryant designs. In 1868 the Proprietors granted a 65 ft. extension of State Street to the city in a "deed of dedication." From the time of these last filling episodes the concerns of the Long Wharf Corporation no longer relate to Parcel D-10.

At the southern end of Parcel D-10 the Long Wharf stores remained. It appears from twentieth century photographs (Fig. 5 & 6) that the stores on State Street maintained their nineteenth century form, except for the addition of stories and face lifts, until their demolition in 1971. On the remaining 78 ft. of Long Wharf north of the stores, Commerce Street was built 58 ft. wide. North of Commerce Street a commercial block was constructed on the remainder of Long Wharf and portions of the filled channel. These were demolished in 1971.

The Channel

The Channel portion of Parcel D-10 starts aproximately 146 feet north of the intersection of State and Commercial Streets and ends approximately 274 feet north of the same intersection (Map 4). This area was part of the flats,

which were any area between the low and high tide marks. Until the 1820s this area was harbor which ships passed through to reach western portions of Long Wharf, David Spears Wharf and Greene's Wharf (Map 14).

At this time, the City of Boston began a massive rebuilding of the city's market area, bringing order to the area northwest of Long Wharf. The town dock had been filled but the area was a warren of woodsheds and privately held wharves insufficient to accommodate the provisioning of the growing city. The Mayor, Josiah Quincy, devised a plan beginning with the filling of a large area before Fanuiel Hall for the construction of a new granite market house, and adjacent warehouses to the north and south. The western bound of the development area was marked by Marchants Row, and land extended east to the end of Eustis and David Spears Wharves (Map 15). The city acquired the property to the north of State Street and Long Wharf from the Proprietors, as well as other area land, wharf and dock owners. They then laid out new streets roughly parallel to the street and wharf: Chatham, South Market, North Market and Clinton. Commercial Street at the water's edge formed the eastern boundary connecting to State Street. The city constructed City Wharf, the northern boundary of the channel in 1831.

The Channel was divided into four functions after this date (from south to north): docking area for Long Wharf (35 ft.); a common passage 30 ft. wide for City Wharf and

Long Wharf; a docking area for City Wharf (35 ft.) and a narrow strip of flats (ca. 27 ft. wide at Commercial Street) (Map 16). Proprietors of Long Wharf and City Wharf were responsible for dredging the common passage so that boats would have the necessary clearance. By 1852 this area was filled for further commercial development. By the 1860s a commercial block was constructed on 100 ft. of the channel and part of Long Wharf between Commerce and South Market Streets (Map 5). The style of architecture employed was the Palazzo version of Boston's Granite Style. Constructed of brick, the buildings were faced with hammered granite employing structural elements rather than ornament for visual interest. Granite post and lintel construction on the first floor allowed large plate glass windows to display the merchandise of the stores' proprietors. Belt courses and a large cornice tied together the repeating windows in the five story structures, topped by a gable roof lit by dormer windows (Bryant, 1972:passim).

City Wharf

The northernmost portion of Parcel D-10 was part of the Channel until the 1820s. Once the new Fanuiel Hall or Quincy Market was completed, the City Council considered the disposition of the flats that lay on the opposite or east side of Commercial Street. As Quincy notes in his Municipal History:

> There were at this time active influence without door at work to induce the City Council to make a sale of these wharf and dockage rights. Capitalists see early and clearly the value of choice locations of business and investment (1852:244).

The location was considered by the designated committee to be so convenient to the city's most active business are that the rights should be retained by the city until its value could be determined. At an expense of $18,856.75, a new City Wharf was constructed (Map 16). It added substantially to the made land within Parcel D-10 as Map 5 illustrates. The wharf was subsequently leased in 1832 in an agreement which called for an annual rent of $10,000 for 20 years, as well as the construction of ten trick stores, all of which reverted to the city in fee simple in 1852. A packet office was constructed on the south side of the wharf. Flour merchants occupied much of the space in the stores, probably because of the proximity to Quincy Market. The wharf generated a substantial income of over $15,000 in the twenty year period; but even though its worth increased vastly to an estimated $400,000, the arrangement was not extended. After the Channel was filled in in the 1850s, the stores and packet office were torn down and a new commercial building was constructed between South Market and Clinton Streets (Fig. 3), similar in style to the buildings just south of it.

Parcel D-10: 1855-1979

After 1855 Parcel D-10 was part of the warehouse district around Quincy Market. The changes made in the buildings

involved, usually, the additions of interior partitions, the raising of roof lines, and maintenance. In the 1950s the Central Artery was built and Parcel D-10 acquired its present shape. In the late 1960s urban renewal, by the Boston Redevelopment Authority, resulted in the demolition of all the standing structures on Parcel D-10.

CHRONOLOGY

1630	Boston settled by Europeans
1673	Third Anglo-Dutch War - Barricado constructed
1711	Fire that destroyed area from School Street to Dock Square
1711	Original Long Wharf constructed. (Approximately 24 ft. on Parcel D-10)
1734	Wharf in decay
1765	Northern expansion of Long Wharf 20 ft., wharf and stores
1768	British troops arrive
1774	Boston Port Bill - Port of Boston closed
1775	British Occupation
1776	British Evacuation
1826	Northern expansion of Long Wharf 78 ft. stores 20 ft. City Wharf constructed
1852	Channel filled Commercial blocks constructed
1971	Demolition of all buildings on D-10 site
1976	Quincy Market rehabilitation Waterfront Park opened

RESEARCH DESIGN

The archaeological site examination of Parcel D-10 provides a unique opportunity to study the history of Boston's waterfront. Unlike many urban archaeological sites which have been investigated, this site represents primarily commercial and business activity rather than domestic or industrial activity. Urban sites differ from rural sites because they have a higher intensity of activity. Urban sites also have greater rates of disturbance, from continual building and moving and land altering activities.

Urban sites usually are formed as the result of three processes; Parcel D-10 has the potential to demonstrate all three.

1. Day-to-day activities produce gradual deposition. At Parcel D-10 slow accumulation resulted from commercial activities on Long Wharf and later City Wharf. To what extent is this deposition visible on the harbor floor? Is there any evidence of cargo slippage or sunk vessels? Can the changing activity types be distinguished among layers? To what extent was the harbor used as a general dumping area for the city? Specifically, did Quincy Market dump any refuse from its provisions trade? Can more familiar domestic refuse be distinguished from commercial? Is there evidence that the harbor was periodically dredged to allow access to the inner portions of the wharves?

2. Construction and destruction of buildings produce site specific features. As the parcel area was filled, the resulting wharves and land were developed with commercial buildings. To what extent does this building type produce archaeological features? Is there daily accumulation of refuse on a retail/storage site?

3. Leveling and filling alter topography. At least five successive filling sequences contributed to the formation of Parcel D-10: 1) shoring Long Wharf's cribbing with the rubbish from the ruins of a 1710 fire (Winsor II, 405); 2) the northward wharfing out of Long Wharf; 3) the construction of Quincy Market on made land; 4) the construction of City Wharf; and 4) the filling of the area for the constructin of Atlantic Avenue. Can these successive fills be differentiated? How did wharf construction vary over time? Were buildings added directly onto existing wharves or where special filling techniques employed?

The last research question concerns methodology. What is the best and most efficient method(s) of testing an urban site with physical restrictions (utility lines, proximity to major tourist atrraction), deep fill, and possible wet deposits? The Museum selected two methods to use during the site examination: borings and test trenches.

TESTING PROGRAM: BORINGS

METHODOLOGY AND PROCEDURES

The Museum of Afro American History selected a two-part testing strategy for Parcel D-10. Part One was a test boring program designed to obtain information on the sequence of deposits, on possible obstructions, on wet deposits and on the location of the remains of wharf and building features. Part Two was the excavation of test trenches to locate features and deposits.

Sampling strategies are normally designed to provide maximum data recovery with a minimal amount of testing. Discussions of the various strategies which can be employed usually emphasize random sampling schemes and are essentially concerned with ideal almost pristine situations (i.e. Redman 1974, Muller 1976). Conducting archaeology in the center of a major metropolis, in this case Boston, necessitates the consideration of a wide spectrum of factors which depart from the commonplace. In the case of Parcel D-10 these factors included avoidance of utilities, maintenance of traffic flow in a functioning parking lot, and educating the public while assuring their safety. All of these things contribute to development of a working, practical, and scientifically sound testing strategy.

Part One of the testing strategy, test borings, was designed to maximize coverage of Parcel D-10 while minimizing disturbance. This method has been used in other urban testing situations in New York City (Rothschild & Rockman 1981), Providence, Rhode Island (Rubertone and Gallagher 1981), and St. Augustine, Florida (Deaghan 1981). However, while the test borings mentioned above were auger borings, the D-10 borings interspersed solid core samples (Split spoon samples).

The area available for sampling was restricted by a number of utility lines (Map 3), a maintenance building, and parking lot apparatus. It was decided to sample the remaining area based on the documentary evidence, especially the historic map information. The overlay maps, described under Research Methodology, showed where obstructions, such as walls, might be avoided. Boring locations were first selected with a particular feature, building or historic question, as itx purpose. For instance, borings numbered 1, 12 & 14 along State Street were located to test for remains of Long Wharf (circa 1711). These locations are termed "judgmental." In the rest of the area, with no known particular features, borings were located every 60 feet. These locations are termed "systematic." All of these boring locations were then put into priority categories for consultation with the developer. The priority categories were:

Priority 1.--Judgmental locations which were not near utilities and where were not in driving lanes.

Priority 2.--Systematic locations which were not near utilities and which were not in driving lanes.

Priority 3.--Judgmental locations which ran the risk of disrupting the operation of the parking lot.

The final boring locations were selected in a meeting with the developer (Maps 4 & 7). A total of 15 borings were drilled and 9 were piriority 1 borings. Two priority 2 borings were done. When the boring process began it became clear that the parking lot plan (i.e. spaces and lanes) did not correspond to the plan which was used to select boring locations. Consequently some locations were abandoned and four additional locations were chosen based on field conditions and obstructions encountered during drilling. All the borings were compared with borings taken in March of 1982 by the Guild Drilling Co., Inc.

The test borings wwere taken with a Mobile B-40L drill rig which employed both a 5 3/4 inch diameter auguer and a two foot long, 2 inch diameter split spoon or core. The auger drilled to five feet below surface (the length of one auger attachment). At this point a two foot spoon or core was pounded into the ground from five to seven feet to obtain a solid sample. After this sample was obtained, a second auger section was drilled from five to ten feet and the spoon sample was repeated from ten to twelve feet.

This was usually the procedure on each boring, although consecutive spoon samples were taken in some cases, and augers were used more often in the case of an obstruction. During the auger intervals the dirt churned out of the hole was watched for changes in soil coloration and content and for artifacts. Artifacts were bagged and labelled. When a spoon sample was retrieved it was examined, described, and usually the entire sample was bagged. When it became clear that the five to seven foot intervals in most boring samples were construction debris of brick and mortar, these samples were not saved.

When below ground obstructions were encountered, such as brick, or more often granite foundation stones, attempts were made to drill through them. If this met with failure then the location of the boring was altered by a few feet. In all but two cases, obstructions were able to be by-passed. In those instances when obstructions forced abandonment of a boring location, efforts were made to choose a similar location, thereby ensuring the integrity of our sample.

RESULTS (Appendix I)

With the exception of borings 2, 3, and 6, the first 9½ feet of each boring were very similar. A gravel fill level from 0-5 feet was probably put down after the 1968 demolition. This was followed by varying degrees of rubble fill to usually 9½ feet below surface. This was apparently

the cellar depth of the buildings destroyed in 1968. The cellars were filled with rubble from the demolition.

"Long Wharf" Borings (1, 2, 12, 13, 14, 16)

A total of 6 of the 15 borings were chosen for the purpose of locating Long Wharf. Borings were located within wharf buildings and on the 1826 wharf deck. Boring 1 was located next to State Street at the southernmost portion of the parcel. Boring 1 hit concrete at 10 feet below surface. The spoon sample from 10-12 feet brought up 10 inches of concrete followed by 12 inches of solid wood. Below the wood the auger brought up gray harbor muck with a great deal of wood fragments. This continued to about 15½ feet. From 15½ feet to 17 feet below surface was gray harbor clay with a great quantity of shell.

Borings 12, 13 and 14 were also located along the State Street boundary. Borings 13 and 14, west of boring 1, both hit obstructions. Boring 13 hit an obstruction at 8 feet, probably a building wall. Boring 14 hit a granite foundation at 10½ feet. Above the foundation from 5-10 feet coal ash and cinder were found instead of rubble debris. Boring 12, east of boring 1, brought up a leather fragment between 10-12 feet. Below this level was the harbor muck, mixed with some brick fragments, to 16 feet.

Boring 16 was located north of boring 12. Granite chunks or a granite foundation were found at 9½ feet. Below the granite was harbor clay.

Boring 2 contained gravel fill to approximately 5 feet below surface. From 5 to 6 feet rubbles was encountered. Muck, shell, and traces of brick and iron were found from 6 to 7 feet. The gray clay was then encountered. This stratigraphy is similar to Guild borings B-103A and B113 in the same vicinity. Up until 1852 when the area between Long Wharf and City Wharf was filled in the northernmost portion of Long Wharf was decking with no buildings (Map 4). A portion of this area then became Commerce Street. It is therefore possible that certain portions of Long Wharf decking were not destroyed by later construction.

"Channel" Borings (3, 4, 8, 10, 15)

Five test borings were placed within the area which constituted the channel between City and Long Wharves. By 1866 this channel had been filled and buildings were constructed on the made land. Borings 3, 4, 8, 10 and 15 were all placed in this area (Map). Boring 3 hit an obstruction at 6 feet. The original location of boring 10 (Map) was obstructed at two feet below surface, and therefore was moved two feet to the north. Here the gravel fill and light building debris was followed by harbor clay about twelve feet below surface. Boring 4 came down on top of a pile at about 13.5 feet, retrieving a two foot core of solid wood, as well as an additional 33½ inches of solid wood. This wood was overlayed by over 4 feet of dense rubble; concrete, brick and wood. This was covered by five feet of dry gray/green

sand with some gragments of wood, brick and mortar. This suggests that this may well be a support pile driven to support a post-1852 building.

In both borings 8 and 15, evidence of the post-1866 buildings was clearly visible. Boring 15 was unable to break through what may be a concrete floor at 9½ feet. Concrete was visible on the drill bit. The same floor may have been encountered in boring 8. Here rubble was discovered at about 9 feet, with a foundation from 10½ to 12½ feet, at which point it was broken through. Below this was the harbor clay.

"City Wharf" Borings (6, 7, 11)

Four boring locations were chosen to drill through City Wharf. Unfortunately it was in the vicinity of City Wharf that the coring machine experienced the greatest degree of difficulty in completing its task. Only three of the four borings were actually done.

Borings 7 and 11 were located in order to sample the stores on the wharf and a section of decking on the wharf. Both exhibited the general site stratigraphy of gravel fill to 5 feet, rubble at approximately 12 feet, and harbor clay below 12 feet.

Borings 5 and 6 were located in the cobblestone "Walkway to the Sea" because it had been a street since 1852 and no utilities were shown under it (Map 3). Boring 6 was expected to hit the packet office on City Wharf. After the cobblestones were removed the auger drilled 2.5 feet and

broke a bit. A new bit was used but could not break through the obstruction. The boring crew felt that either there was a very thick concrete base to the "Walkway to the Sea" or that unmapped utilities exist under the old road. Boring 5 was cancelled because of this uncertainty.

CONCLUSION

The results of the borings were compared with the Guild borings. The conclusions are:

1. Boring 1 contained a foot of wood suggesting the existence of wharf remains at 11 feet below surface. Guild boring B101 also contained a great deal of wood (Appendix I).

2. Boring 2 was the only boring which did not have a thick rubble level (suggesting a filled cellar). Guild borings 113 and 103A had similar stratigraphy. This may signal that the decking portion of Long Wharf remains undisturbed under the utilities for the now defunct Commerce Street.

3. The two commercial buildings constructed between Commerce and Cointon Streets seem to have destroyed City Wharf above 12 feet. The portion of City Wharf under the "Walkway to the Sea"is obstructed, but many be intact under the obstruction.

4. The channel below 12 feet does not seem to be disturbed. However, the harbor clay retrieved from borings 10 and 8 contained only organic material.

TESTING PROGRAM: TRENCH EXCAVATION

METHODOLOGY AND PROCEDURES

Trench placement was limited by existing utilities and parking lot operations. The boring results showed that the trenches would have to be a minimum of 10 ft. deep to get below the 1971 demolition debris. Trench 1 was placed at the south end of Parcel D-10 starting at the location of boring 1 and moving northward. (Trench 2 was to be placed to intersect City Wharf.) Boring 1 had intersected wood which was believed to be associated with Long Wharf. Trench 1 was placed so that it would not intersect building walls and might intersect the first expansion of the wharf. When Trench 1 confirmed this, it was decided that the further investigation of Long Wharf was a high priority. Trench 2 was intended as a northward extension of Trench 1, but was moved 13 ft. eastward to avoid unstable walls. It was placed where building 18 on Long Wharf had been located.

RESULTS

Trench 1

Trench 1 was located 10 ft. north of the southern boundary of Parcel D-10 and was 9 by 26 ft. at the surface. The top four feet of the trench was characterized by consolidated fills comprised of compact sands and gravels (Fig. 7).

Below the four foot level lay a thick compact level of rubble and debris from the 1971 demolition of the State Street buildings. A looser rubble layer followed to just over 6 feet below surface (b.s.). A foot thick level of greenish clay was then followed by a loose wood and brick rubble level. This level bottomed on a concrete floor at nine feet four inches b.s. This was the cellar floor of building 17. The floor was cleaned and photographed. An architectural feature was discovered in association with the floor constiting of the cast iron support or pier for a lolly column (Fig. 8). The concrete floor, which measured one foot thick, was broken up with a large jack hammer attached to the machine's bucket. Below the concrete floor was a brick support for the pier. When the concrete floor was cleared away a highly organic layer of muck was discovered. This level had the highest artifact content, predominantly eighteenth century debris. The concrete floor had sealed these lower levels, so there was little intrusive recent twentieth century demolition debris. The western portion of the trench was disturbed by the brick pier and a ledge of concrete 2.75 ft. wide was left on the east side. The area excavated below 10 ft. was approximately 4.25 by 11 ft.

At approximately eleven feet from the surface the first of several large logs (A) was encountered. It was located in the southern wall of the trench running east/west (Figs. 9 & 10). Shortly thereafter, another log (B) was

discovered, again running east/west approximately nine feet north of the first log. A somewhat smaller log (C) between A and B was torn out by the backhoe. It was most visible in the east and west wall profiles of the trench. Perpendicular to logs A-C was log D which intersected beams B and C (Figs. 10 & 11). Also perpendicular were logs E and F which seemed to have overlain log B but were displaced and mangled by the backhoe (Fig. 12). Most of these logs were only partially unocvered so that a minimum amount of measurements could be taken. They were:

Log A - probably pierced by Boring 1 - ca. 12 in. in diameter.

Log B - ca. 10 in. in diameter

Log C - ca. 8 in. in diameter

Log D - ca. 18 in. in diameter
12½ ft. in length (Fig. 13)

Log E - ca. 18 in. in diameter

Log F - ca. 15 in. in diameter

A section of Log D was taken and samples were submitted to Dr. Elso Barghoorn at Harvard University. Dr. Barghoorn identified the samples as Atlantic white cedar. When samples of the organic muck was wet screened, cedar bark was found. This suggests that the logs were not finished when they were used.

In the southern portion of the trench, between logs A and B, and approximately three feet below them, the machinery encountered what looked like a log flooring. The logs

ran east/west and were glimpsed briefly as the bucket pushed water and mud aside. The machine operator, Arthur Standish, said it felt like a "corduroy road" or logs laid side by side. He reported that he had encountered a similar feature while excavating the foundation of the Marriott Hotel which is further east on Long Wharf. Excavation was halted at approximately 15 ft. b.s.

Below 11 ft. b.s. water was a problem and hindered visibility and hand excavation. A few artifacts were found in situ, but most could not be seen. A large number of small shells were also encountered. In order to sample the content of the muck a portion of each bucket load brought up by the backhoe was placed in a plastic garbage bag. These were labelled with their approximate depth and location. Five sampels from 12 to 15 ft. b.s. were taken. They were each wet screened in an effort to recover artifacts and faunal and floral material. From 11 ft. b.s. to 13 ft. b.s. the wet organic and gray clay muck contained the highest number of manmade objects. In general the deeper samples contained more gray clay and less decayed muck and the clay became stiffer.

A total of 138 artifacts, flora, fauna and samples[4] were collected from trench 1 (excluding shells which are discussed below). Eleven ceramic fragments were found, five

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[4]Certain categories of objects were sampled either because of their size or number. They include: brick, wood, mortar, plaster, concrete, slate, linoleum, tar, coal and charcoal.

utilitarian and five refined. The utilitarian fragments consist of one piece of unglazed earthenware, four pieces of lead glazed red earthenware (one burned or a waster), and one piece of buff bodied combed slipware. It is impossible to differentiate British from American red earthenwares during the Colonial Period unless there are distinctive designs or markings. Barton has dubbed these "Anglo-american wares" (Barton 1981). Boston had earthenware potteries from 1665, and Charlestown was a center of earthenware production in the eighteenth century (Watkins 1968:19-20, 24-38). The fragment of buff bodied comed slipware was found just below log A. It has a notched edge and was probably part of a pie plate. It was made in Staffordshire, England between 1700-1770, probably after midcentury (Hume 1969:134-135).

The refined ceramic tablewares found in trench 1 consist of four fragments of Staffordshire white salt-glazed stoneware and one fragment of thin bodied buff earthenware. White saltglazed stoneware was manufactured in England between 1720 and 1770 (Hume 1968:114-115; Lewis 1969:61). One fragment appears to be a portion of a tea bowl rim. The other fragments are very small and thin, probably fragments from a tea service. The piece of thin bodied buff earthenware may be Whieldon, manufactured in England 1750-1775 (Hume 1968:123-124).

There were seven fragments of a free blown glass bottles found in trench 1. Six fragments were of light green glass from a wine bottle including pieces of a base and a neck. The form and base measurement of the bottle resembles late eighteenth century examples (Hume 1968:67-68; Wilson 1972:9). The other light green fragment may be a piece of a case bottle. These are probably pieces of imported glass, although the first Boston area glassworks in Braintree was in production from 1750-1768 (Wilson 1972:47-48).

Eighteen clay tobacco pipe fragments (seventeen stem and one bowl) were found in trench. Fifteen of the seventeen stem fragments have bore diameters of 5/64th of an inch which date from 1710 to 1750 and two have bore diameters of 4/64th which date from 1750 to 1780 (Hume 1968:298). Two small fragments of leather and three pastic fragments were also found.

Structural materials include four fragments of window glass, two fragments of slate, one keg plug, three treenails (treenails or trunnels are cylindrical pins of hardwood used in ship and wharf construction) and two fragments of brick tile. Samples of mortar, wood, charcoal, coal and brick were taken. Three pieces of flint, probably used as ship's ballast, were discovered.

Floral (18) and faunal (15) remains were found, some in a remarkable state of preservation. The floral remains include seeds (5), a pine cone and twigs. The faunal remains

are two fish vertabrae, one cow (bos) astragalus, one tarso-metatarsus of a small bird, one femur of a small mammal, one (squirrel?) skull, one cow? (bos) mandible, two large mammal teeth and six unidentified bones (von den Driesch 1976; Olsen 1964).

When the soil samples from trench 1 were processed, a large number of shells (Molluscan remains) were found in the deposits. Specimens which had the umbo or "hinge" (for bivalves) or the spire (for snails) were collected and submitted to Dr. Russell J. Barber, Institute for Conservation Archaeology, Peabody Museum, Harvard University. His report, "Analysis of Molluscan Remains from Parcel D-10, Boston Harbor" is summarized here and appended in its entirety (Appendix III). The 231 specimens are identified as belonging to two snail species (24) and seven bivalve species (207) Appendix III, Table 1). The environmental tolerance of these species was identified (Appendix III, Table 2), and then analyzed in conjunction with the vertical distribution information (Appendix III, Table 1). This analysis indicates that in the prehistoric and early historic periods the Parcel D-10 portion of Boston Harbor included hard intertidal (rocky?) substrates and mudflats (13.5 to 15 ft. b.s.). At the same time the distribution of two bivalve species suggests that adjacent mudflats were being filled and dredged. This would correlate with the progressive wharfing out northeast

and southeast of Long Wharf, as well as the 1711 construction of Long Wharf. The analysis also indicates that the sediment load increased, thereby driving out certain species. Size distribution analysis was done for one species in the assemblage, Mya arenaria (soft shell clam) (Appendix III, Table 3). It indicates that in the 13.5 to 13.9 ft. b.s. sample there seems to have been catastrophic mortality of certain shell fish. This would also correlate to wharf construction.

Analysis of the remains found in trench 1 indicate they date predominantly to the middle to late eighteenth century, suggesting that this portion of the wharf was constructed around that date. The upper soil samples (10.5 to 13 ft. b.s.) contained 95% of the manmade artifacts (excluding construction related items). The lower samples (13.5 to 15 ft. b.s.) contained mainly shells, some structural debris and organic remains such as twigs. This suggests that the upper levels date to the 1763 expansion and that the lower levels pre-date this expansion. The level and role of the "cordoroy road" remains unclear and would have to be examined during further excavations.

Trench 2

Trench 2 was placed 13 feet east of trench 1 and 33 feet north of the parcel's southern boundary (State Street) (Maps 4 & 7). This location was chosen to find later extensions of Long Wharf. The trench was moved eastward for safety reasons.

The initial nine and a half feet of trench 2 was comprised of unconsolidated fills similar to those found in trench 1 (Figure 14), primarily gravel to 3 ft. b.s. and rubble to 8.75 ft. b.s. At 6 ft. 10 in. b.s. the trench excavation uncovered what appears to have been the east foundation wall of building #18. This was a substantial wall consisting of two two-brick thick walls. Between the two walls were dry laid granite blocks 23 in. square, set on 8-12 in. of stone chips. The brick walls bottomed on the concrete floor 8.75 ft. b.s. The fill material directly associated with the architectural remains consisted primarily of building debris.

The granite stones were left in situ as an east retaining wall and only the floor to the west of the wall was removed, an area approximately 8 by 15 ft. The northern portion of the floor was broken, probably during the 1971 demolition. The floor itself proved to be different from that uncovered in trench 1. A two inch layer of concrete was followed by two courses of brick and then a four inch layer of concrete. Below the floor (10 ft. b.s.) was a 1.5 ft. layer of loose gravel accompanied by some large stones. This type of fill was not found beneath the floor exposed in trench 1.

At 11.5 ft. b.s. the highly organic, gray muck fill found in trench 1 was uncovered. Like trench 1 it contained a concentration of artifacts. Several wooden beams and

finished timbers were found. Figure 15 illustrates the features at a depth of about 12 feet. Three planks (G,H,I) running east-west formed a platform. They were 13 in. (G), 10½ in. (H) and 11½ in. (I) in width and sit on piles. Three piles were visible below plank I. Perpendicular to this platform were two planks (J, K) 15 in. in width with their northernmost extension approximately that of the platform. The platform and planks J and K abutt, but are not joined. Three small logs (L,M.N) which ran east-west were destroyed by the machine. Logs L and M were approximately 5 in. in diameter and log N could not be adequately measured.

North of the platform the construction differed. The granite wall continues below the level of planks J and K (11 ft. 7 in. b.s.). West of the wall and north of the platform were large uncut fragments of granite suggesting this area was filled with stone. Excavation had to be halted at this point because of unstable walls.

Artifacts and other remains were recovered in two ways. Fill from just below the concrete floor was inspected as it was brought to the surface. Fill north and south of the platform was wet-screened in the trench. As in trench 1 as the excavation went deeper the clay displaced the organic muck. Most of the artifacts were recovered from just below the concrete floor and from under and around the platform (logs G,H,I).

A total of 253 artifacts, samples, and floral and faunal remains were recovered from trench 2. There are 16 ceramic fragments consisting of two redware, four buff earthenware, four stone ware, and two semi-porcelain fragments. One redware piece has a black lead glaze inside and out and is probably a portion of a small bowl. The other is a small unglazed fragment. Boston and Charlestown had redware potteries from the mid-seventeenth century and these could have been made there or have been imported from England (Watkins 1969: 19-20). Two buff bodied earthenware fragments are everted rim sherds of Staffordshire slipware mugs, ca. 1700-1750 (Hume 1968:134). One has a brown dot on its exterior. Two fragments of buff bodied Staffordshire slipware pie plates (ca. 1700 to 1775) were also found. One fragment of English brown salt-glazed stoneware (ca. 1690-1775) is in the collection, as well as a small (ca. 1 in. diameter) white salt-glazed object resembling a cup (ca. 1720-1770) (Hume 1968:114-115); Lewis 1969:61). The other three fragments may be examples of Charlestown stoneware. The Parker pottery located in Charlestown was the first Boston area pottery to produce stoneware ca. 1742 (Watkins 1969:34-36) and Charlestown continued to be a center of stoneware manufacture in the nineteenth century. Two of the pieces are part of the base and body of a pot. The two pieces of semi-porcelain are portions of the rim and base of a small plate made post-1820.

Numerous bottle glass fragments (125) were found in trench 2. Brown or amber free blown bottle glass fragments (113) were identified as 21 base fragments, 10 neck fragments, and 82 body fragments. Light green free blown bottle glass fragments (12) were identified as two base fragments, two neck fragments, and eight body fragments. These bottles were wine or spirits bottles. The forms and base measurements of the bottles resemble late eighteenth century English examples (Hume 1968:67-68; Wilson 1972:9). They could possibly be early American glasshouse products as the first glasshouse in the Boston area was in Braintree ca. 1750-1768 (Wilson 1972: 47-48). The base of a clear free blown tumbler or flip dates to before 1840. There is also one piece of unidentified glass.

Only two white clay tobacco pipe fragments were found in trench 2, one a bowl fragment and one a 5/64 stem fragment (ca. 1710-1750) (Hume 1968:298). A lead musketball (ca. 80mm.) which appears to have been fired was recovered. Three small fragments of leather, two pieces of iron, and two pieces of plastic were found. Structural remains include one nail, one wire, window glass fragments (30, a porcelain insulator fragment, other utilitarian porcelain (2), a sewer pipe fragment, linoleum (12) and a fragment of rubber. Samples of brick, plaster, slate, tar, granite, charcoal, coal, mortar and wood were retrieved. The wood sample included bark shavings, probably poplar or birch. These types of wood would have been used for shingles (Dr. Barghoorn, personal communication). One unidentifiable bone was found.

CONCLUSIONS

Trench 1 was placed to intersect the earliest (1711) portion of Long Wharf at 24 ft. north of the south boundary of Parcel D-10. The excavation uncovered a cedar log construction which resembles a crib construction. Logs A, B, and D may have formed three sides of a crib. The crib would have been sunk at the outside walls of the wharf and log B intersects with the projected north wall of the 1711 wharf (Fig. 17, Map 4). However, although most of the artifacts from trench 1 date to the eighteenth century, they post date the 1711 construction date. Records of the Long Wharf proprietors and of the Boston selectmen indicate that the wharf deteriorated during the 1730s and that when the wharf was widened in 1763 old portions of the wharf may have been dismantled and replaced. Trench 1 apparently contained the 1763 expansion. An assortment of "domestic" artifacts and remains (pottery, wine bottles, bone) and remains relating to the wharf itself (treenails) were found. The comparatively large number of white clay tobacco pipe stems (18) may relate to the wharf construction, i.e. deposited by workmen. Of interest is the identification of the logs as cedar, specifically Atlantic White Cedar (Chaeaecyparis thyoides) (Barghoorn, personal communication). It is durable, has high quality and does not rot easily. "It grows in a narrow coastal belt 50 to 130 miles wide from southern Maine to northern Florda and westward through southern Mississippi" (Little 1959:1).

Trench 2 was placed northeast of trench 1 to intersect the northernmost extension of the 1763 wharf (Map 4). A different type of construction from trench 1 was found south of plank G consisting of planks set on piles. Planks J and K appear to have borne the east wall of building #18, and this consrruction may relate more to store construction than wharf construction. Pile driving is mentioned in the Long Wharf Proprietor's records in 1825. The records also mention "digging and removing old boxing plank" charged to stores 25 through 34 (Proprietors Receipts/Accounts, June 1825). Is the construction in trench 2 "boxing plank"? North of plank G the the small area excavated contained slabs of rock and no visible timber construction. This coincides with the recorded location of the "old sea wall" removed in 1825 during the wharf expansion (Map 4). The expense of removing the stones of the old sea wall were charged to stores 17 through 24 (Proprietors Receipts/Accounts, June 1825). Could these be remnants of the old sea wall which was probably constructed in 1763?

More artifacts were found in trench 2 than in trench 1, especially wine bottle fragments. The dateable artifacts consist of eighteenth century items such as English slipwares and stonewares, the wine bottles (1760-1840), the semi-porcelain (mid-nineteenth century), and linoleum and plastic fragments (twentieth century). Clearly the area has been disturbed, but the predominance of eighteenth century ceramics suggests the initial construction is 1763, possibly disturbed 1826.

The birch or poplar bark shavings suggest shingling for the stores.

A review of other waterfront excavations in New England shows similarities to construction techniques found at Long Wharf. At both Charlestown, Massachusetts and Strawberry Banke, New Hampshire, crib construction has been found (Pendry et al. 1982:88; Harrington n.d.:16). At Newburyport, Massachusetts, corduroy cribwork ballasted with granite fieldstone was found in a post-1800 wharf portion of Gu=nison's Wharf (Faulkner 1978:36). In Charlestown, a wharf constructed of horizontal planking on piles was discovered at a pre-1836 wharf. Four other kinds of pre-1835 construction were also found at these sites, suggesting there were no set methods or chronologies in wharf construction. However, Andrea Heintzelman-Muego of DeLeuw, Cather and Parsons is in the process of compiling eastern seaboard findings into a chronology including those sites mentioned above, and sites in Salem, Massachusetts; New London, Connecticut; New York City, New York; and Alexandria, Virginia (personal communication, Andrea Heintzelman-Muego).

SIGNIFICANCE

Boston, Massachusetts was the largest colonial American port until 1756 and was surpassed by only New York and Philadelphia during the rest of the eighteenth century. Long Wharf was the hub of Boston's maritime trade, handling much of the international and coastal trade for the town of Boston. The wharf served not only private merchants but also the public. A portion of Long Wharf exist east of Atlantic Avenue (and is listed on the National Register of Historic Places), but it dates to the reconstruction and expansion of the wharf in 1857. All above ground remnants of the eighteenth century Long Wharf disappeared between 1868 to 1870. The archaeological testing in Parcel D-10 has uncovered a portion of "Lost Boston": eighteenth century Long Wharf is intact 7 to 12 feet below surface in Parcel D-10. These remains are significant because:

1. Long Wharf was the busiest and one of the largest wharves in New England in the eighteenth century.
2. The remains of Long Wharf are an example of the maritime activities of eighteenth century Boston.
3. The remains shed light on the little that is known about eighteenth century wharf construction and appearance.
4. The artifacts and faunal and floral remains in and around the wharf are very well preserved because they are in wet clay below sea level. Organic remains such as leather, bone and seeds, which often deteriorate on New England sites, are in an excellent state of preservation here.

5. The artifacts represent a time capsule of eighteenth century Boston including, locally made pottery, leather goods, items related to shipping, food remains which might indicate diet, and imported goods such as glass.

6. This is only the third archaeological site which has been tested in Boston. The Bostonian Hotel site is primarily ~~seventeenth~~ 18th century, and the African Meeting House site is primarily nineteenth century. The Long Wharf site is the first eighteenth century archaeological site found within the antebellum bounds of Boston. X incorrect

7. Very few wharf sites have been found on New England waterfront archaeological excavations.

8. Below the historic period remains (13.5 ft. and below) exist natural historic information on the pre-1711 flora and fauna of Boston Harbor which may provide information on early species and species adaptation.

RECOMMENDATIONS

We suggest that an archaeological team monitor the excavation for the foundation of the new building. This would entail the archaeologists and the excavation contractor coordinate their efforts. The archaeologists would:

1. Monitor the excavation to ensure that no archaeological features are destroyed before mapping.

2. Evaluate any wharf or fill features. If they have been almost wholly destroyed they will be mapped and then excavation may proceed.

3. Excavate, with the help of machinery, any features (such as the 1824 Long Wharf decking) which are not significantly disturbed, and recover artifacts and other remains.

At this point the primary significant information to be retrieved relates to types and methods of wharf construction and filling. Artifacts recovery will depend on the degree of disturbance. Late nineteenth century buildings and features are not of primary significance.

The Museum's archaeological staff suggests the following guidelines concerning the material remains recovered from Long Wharf:

1. Long term conservation of the artifacts, particularly those which are apt to deteriorate (e.g., glass bottles, leather, bone) be undertaken immediately.

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1941 Boston Looks Seaward, the Story of the Port, 1630-1940. Bruce Humphries, Boston, MA.

INFORMANTS

On Wood Identification:
Dr. Elso Bargehoorn
Fischer Professor of Natural History
Harvard University
Cambridge, MA.

On Beads:
James Bradley
Massachusetts Historical Commission
294 Washington St.
Boston, MA.

On Glass:
John Cheney
ICA/Peabody Museum
11 Divinity Ave.
Cambridge, MA.

On Wood Identification:
Sheila Garry
Arnold Arboretum
West Roxbury, MA.

On Portsmouth, N.H. Excavations:
Faith Harrington
Strawbery Banke Museum
Box 300
Portsmouth, N.H. 03801

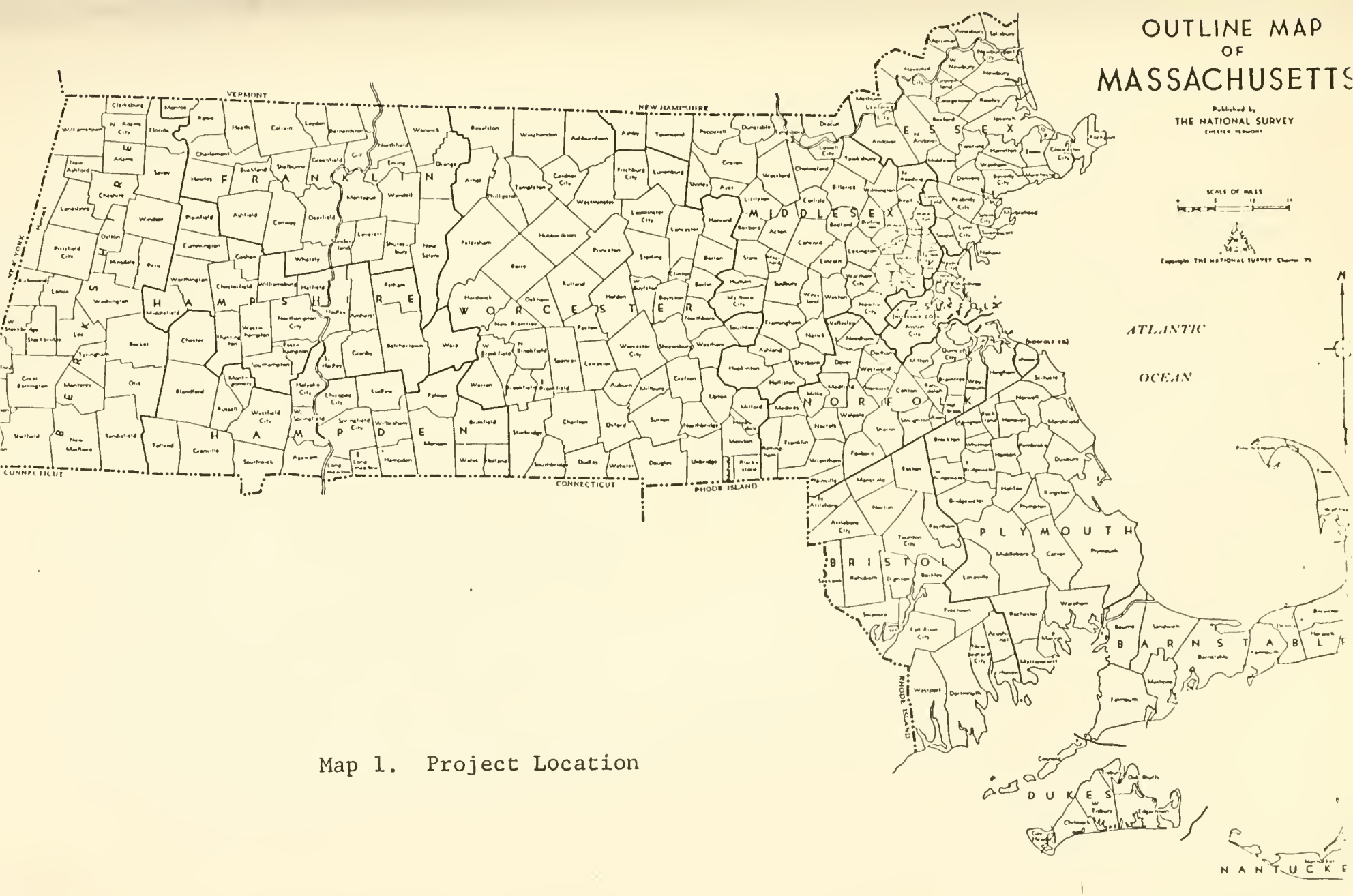
On New London, CT. Excavations:
Andrea Heintzelman-Muego
DeLeuw, Cather Parsons
Room 611, Smith Building
57 Eddy Street
Providence, Rhode Island 02903

On Previous Long Wharf Studies:
Henry Russel
Parsons Brinkerhoff
Boston, MA.

On Marriott Hotel Excavations:
Arthur Standish
A. A. Will Co.

MAPS

1	Project Location
2	Site Location
3	1982 Parcel D-10: Topographic Plan
4	1852 Overlay with Boring and Trench Locations
5	1867 Overlay
6	1899 Overlay
7	1964 Overlay with Boring and Trench Locations
8	Location of Boston's Original Shoreline near Parcel D-10
9	Clough Map of Boston, ca. 1643
10	Bonner Map of 1722
11A	Detail of Bonner Map of 1722 - Benes 1980:51
11B	Burgis View of 1769 - Benes 1980:51
12	Clough's Atlas 1798: Property Owners of the Town of Boston (with some 1900 street lines)
13	Detail of Clough Atlas of 1798
14	Hale's Map of 1814
15	Ground Plan of the Market House erected in 1826. Quincy 1852
16	Plan of City Wharf - SCD 636:End



Map 1. Project Location

Map 8

Map 9

Map 10

Maps 11A & 11B

Map 12

Map 13

Map 14

Map 15

Map 16

FIGURES

1 Revere View of 1768
Bostonian Society Collections (BSC)

2 United States Custom House - BSC

3 Print of commercial building between South Market and Clinton Streets - BSC

4 View of site of new Board of Trade Building, 1903 BSC

5 Construction of subway tunnel under State Street. February 2, 1903 - BSC

6 Buildings (192-204) on north side of State Street before demolition - BSC

7 Profile of trench 1

8 Trench 1 - concrete floor and lolly column

9 Trench 1 - log A

10 Plan of Trench 1

11 Trench 1 - Log D

12 Trench 1 - Logs C, E, & F

13 Trench 1 - Log D

14 Profile of trench 2

15 Plan of trench 2

Figure 1

Figure 2

Figure 3

Figure 4

Figure 5

Figure 6

Figure 7

Figure 8

Figure 9

Figure 10

Figure 11

Figure 12

Figure 15

APPENDICES

APPENDIX I: BORING LOGS

(A) Auger (S) Split Spoon

Boring #1 9/8/82 7:45 a.m.

0-5 ft. (A)	Gravel and brown soil
5-7 ft. (S)	Rubble
7-10 ft. (A)	Gray clay, wood fragments & brick fragments
10-11 ft. (S)	10 in. cement
11-12 ft. (S)	Wood
12-15.5 ft. (A)	Gray mud with wood fragments
15.5-17 ft. (S)	Gray clay with many shells

Boring #2 9/8/82 9:45 a.m.

0-5 ft. (A)	Gravel and brown soil
5-6 ft. (S)	Rubble
6-7 ft. (S) 7-10 ft. (A) 10-12 ft. (S)	Shell, traces of brick, iron fragments in gray clay
12-15 ft. (A)	Gray clay with many small shells and some peat

Boring #3 9/8/82 12:50 p.m.

0-5 ft. (A)	Sand and gravel fill
5-6 ft. (S)	Brick and mortar
Obstruction	Probably brick wall

Boring #4 9/8/82 10:45 a.m.

0-5 ft. (A)	Brown sand and gravel fill
5-7 ft. (S)	Wood, brick, mortar and gray-brown silt
7-10 ft. (A)	Dry sand and small gravel. Shell at 10 ft.
10-12 ft. (S)	Rubble (brick & concrete) fill
12-13.5 ft. (S)	Concrete, brick & wood obstruction
13.5-16.5 ft.	Wood (33½" - probably a pile)
16.5-18 ft.	Gray clay and silt, many shells

Boring #6 9/10/82 6:30 a.m.

0-2½ ft.	Sand
Obstruction	Heavy concrete (?) broke 2 teeth of bit

Boring #7 9/9/82 6:30 a.m.

0-3 ft. (A)	Brown sand and gravel
3-5 ft. (A) 5-7 ft. (S) 7-8.5 ft. (A)	Brick rubble
8.5-10 ft. (A)	Wood - water 10 ft.
10-13 ft. (S)	Empty - probably blockage
13-14 ft. (S)	Gray clay mixed with brick and wood debris, then shell

Boring #8 9/9/82 12:22 p.m.

0-5 ft. (A) 5-7 ft. (S) 7-9 ft. (A)	Sand & gray green clay Clay fill
9-10.5 (A)	Brick, glass, mortar rubble
10.5-12.5 (S)	Foundation
12.5-14.5 (S)	Empty sample
14.5-16.5 (S)	Gray clay and silt mud

Boring #10 9/9/82 9:11 a.m.

(Two sites for this boring to the north and east hit a granite obstruction at 2 feet)

0-5 ft. (A)	Gravel and sand fill with pieces of granite
5-7 ft. (S) 7-10 ft. (A) 10-12 ft. (S)	Mortar and gray sand with nail fragments
12-14 ft. (S)	Gray clay with shell and wood

Boring #12 9/9/82 11:05 a.m.

0-5 ft. (A)	Gravel and sand fill
5-7 ft. (S) 7-10 ft. (A)	Brick rubble and mortar mixed with gray clay
10-12 ft. (S)	Brick, mortar, wood, a leather fragments mixed with clay
12-14 ft. (S)	Gray clay with brick fragments
14-16 ft. (S)	Gray clay with brown muck, shell, brick and tar

Boring #13 9/10/82 10:10 a.m.

0-5 ft. (A)	Gravel and sand fill
5-7 ft. (S)	Black ash/Gravel (6") Concrete (9") Brick, mortar and wood (9")
7-9.5 ft. (A)	Brick rubble
Obstruction	Probably brick foundation

Boring #14 9/10/82 8:35 a.m.

0-5 ft. (A)	Dark brown sand with some pebbles
5-7 ft. (S) 7-10 ft. (A)	Coal ash and black cinder
10-10.5 ft. (S)	Granite, concrete & mortar
Obstruction	Granite foundation

Boring #15 9/10/82 11:07 a.m.

0-5 ft. (A)	Gravel and sand fill
5-5.75 ft. (S)	Sand & oil soaked gravel
5.75-7 ft. (S)	Concrete
7-9.5 ft. (A)	
Obstruction	Probably concrete floor

Boring #16 9/10/82 12:15 p.m.

0-5 ft. (A)	Brown sand and gravel
5-7 ft. (S)	Rubble, brick, granite chunks and mortar
7-10 ft. (A)	Rubble
10-11.5 ft. (S)	
11.5-13 (S)	Granite chunks and tar
13-15 ft. (A)	
15-17 ft. (S)	Empty
17-19 ft. (S)	Gray clay with many shells, wood (and fish vertabra)

APPENDIX II: RECOVERED MATERIAL REMAINS

Trench 1

Box 1 - 12' below surface

Artifacts:
- One black bead
- One White clay tobacco pipe stem (5/64) fragment
- One wood keg plug

Flora & Fauna:
- One burned bone fragment

Samples:
- Three brick fragments
- One mortar fragment
- One piece of charcoal

Box 2 - South of Beam B - 12-13' below surface

Artifacts:
- Two fragments of plain lead glazed earthenware
- Two window glass fragments
- One fragment blue plastic
- Five white clay tobacco pipe stem fragments (1-5/64, 2-4/64)
- One white clay tobacco pipe bowl fragment
- Wood: (see glass jar)

Flora & Fauna:
- One bone (fish vertabra)
- One seed

Samples:
- Seven brick fragments
- Four small pieces of coal
- One piece of slate

Trench 1 - Cont.

Box 3 - North of Beam B - 12-13' below surface

Artifacts: One fragment red earthenware - burned (may be a small waster fragment)

One light green case bottle body fragment

One wooden trunnel

One piece of flint

One piece of thin gray slate cut in a circle

Flora & Fauna: One fish vertabra

One bos (cow) astragalus

Four unidentified bone fragments

One seed

Samples: Seven brick fragments

One piece of mortar

Five wood fragments

Box 4 - 13.5-13.9' below surface

Artifacts: One window glass fragment

One white clay tobacco pipe stem fragment (5/64th)

One leather fragment)

Flora & Fauna: One tarsometatarsus of a small bird

One seed

Samples: Three brick fragments

Two stones

Box 5 - 13.9-15' below surface

Trench 1 - Cont.

Flora & Fauna: One pine cone

One reed

One seed

One unidentified femur

Samples: Three brick fragments

One charcoal piece

Bag 14A - Backdirt ca. 10.5-12' below surface

Artifacts: One unglazed red bodied earthenware

Two dark green bottle glass fragments

Six white clay tobacco pipe stem fragments (5/64)

One leather fragment

Two brick tile fragments

One chunk of flint

Flora & Fauna: One tooth

Three shells

One seed

Samples: One brick fragment

One piece of charcoal

Two pieces of coal

Bag 15 - Wood and Brick (above concrete floor)

Artifacts: One fragment of plastic

Samples: One brick fragment

One piece mortar

One piece wood

One piece charcoal

Trench 1 - Cont.

Bag 16 - South Wall of Trench below Beam A

Artifact: One fragment of buff earthenware pottery with slip decoration and pie plate edge

Bag 17 - Ca. 11-12' below surface

Artifacts: Four fragments of Staffordshire white salt-glazed stoneware. 1720-1760

One fragment refined buff-bodied earthenware (Whieldon?)

One fragment window glass

Four fragments of a dark green bottle

Four white clay tobacco pipe stem fragments

One trunnel

One fragment of Ivory or shell

Flora & Fauna: One tooth

One (squirrel?) skull

One unidentified bone

Sample: One brick fragment

Bag 18 - Backdirt ca. 13' below surface

Artifact: One piece of thick blue plastic

Bag 19 - 12' 3" below surface

No remains

Bag 20 - 13.5-13.9' below surface - backdirt

Artifacts: Ribbed red earthenware fragment with black glaze

One fragment of flint

Trench 1 - Cont.

Samples: Three pieces of wood

One piece of coal

Bag 21 - 11.5' below surface

Flora & Fauna: One (cow?) mandible

Bag 22 - 13.9-15' below surface

Artifacts: One wooden trunnel

One unidentified wood object

Trench 2

Bag 1 - Fill on cement floor

Artifact: One wire fragment

Bag 2 - Fill directly below cement and brick floor

Artifacts: One fragment domestic stoneware

Two fragments of a semi-porcelain small plate

One fragment of a porcelain insulator

One fragment utilitarian porcelain

One base and one neck of freeblown light green glass bottle

Thirty-eight fragments of brown/amber freeblown bottle glass

One unidentified nail

One wire fragment

One piece blue plastic

Three pieces of flint

Trench 2 - Cont.

Flora & Fauna: One oyster shell

Samples: Two pieces plaster

One piece wood

One piece charcoal

One piece coal

Eight pieces linoleum

One unidentifiable mass (rubber or plastic?)

Bag 3 - Fill below brick and cement floor

Artifacts: One window glass fragment

Four brown freeblown glass bottle fragments

Bag 4 - South of (C) 12.5' below surface

Artifacts: One fragment lead glazed red earthenware

One fragment brown dotted buff earthenware mug rim - English

One fragment buff bodied earthenware with dark and light brown combing - pie plate rim - English

One fragment thin red earthenware

One fragment English brown saltglaze stoneware 1690-1775

One fragment window glass

Four light green freeblown bottle glass fragments

Eleven brown freeblown glass fragments

One unidentified glass fragment

One white clay tobacco pipe stem fragment

Two leather fragments

One musketball (.80 caliber has been fired - may not be accurate)

One fragment of wax(?)

Trench 2 - Cont.

Flora & Fauna: Two shells

One seed

Samples: One brick fragment

One piece of slate

One blob tar

Bag 5 - North of C - approximately 12.5' below surface

Artifacts: Two fragments window glass

Three fragments brown freeblown bottle glass

Bag 6 - On top of C

Artifacts: One fragment ceramic sewer pipe(?)

Two fragments window glass

Eight fragments brown freeblown bottle glass

One white clay tobacco pipe bowl fragment

Flora & Faunda: One unidentifiable bone

One poplar or birch bark fragment

Sample: One brick fragment

Bag 7 - Fill between floor & C

Artifacts: Two fragments domestic stoneware

Eight fragments brown freeblown bottle glass

One clear freeblown glass tumbler base with pontil mark

Bag 8 - On top of C

Artifacts: One fragment buff earthenware with combed slipping

Three fragments brown freeblown bottle glass

Four chunks of flint

Trench 2 - Cont.

Bag 9 - Fill below C

Artifacts: Five brown freeblown bottle glass fragments

Four wooden objects

Flora & Fauna: Two pits

Bag 10 - Fill around A, B and C

Artifacts: One fragment unglazed redware

One buff earthenware cup rim

One fragment Staffordshire white salt-glazed stoneware (1720-1760)

One fragment domestic stoneware

One fragment utilitarian porcelain

Three pieces of window glass

Six pieces freeblown light green bottle glass

Seventeen pieces freeblown brown bottle glass

Five chunks of flint

One piece of plastic

One piece of green linoleum

One piece of brown linoleum

Samples: Three charcoal fragments

Bag 11 - Fill around A, B & C

Artifact: One leather fragment

Bag 12 - Fill around A, B & C

Artifacts: One glass fragment

One piece wooden lath(?)

One wooden peg

Two wood shavings

Trench 2 - Cont.

Flora & Fauna: One seed

Bag 13 - Fill north of C - plaster & mortar

Artifacts: Seven window glass fragments

Fifteen bottle glass fragments

Two pieces iron

One piece of rubber

One piece of linoleum

Flora & Fauna: One wood twig

Samples: Three mortar fragments

Two charcoal fragments

Two granite fragments

Bag 14 - South of C

Artifact: One bottle glass fragment

APPENDIX III:

ANALYSIS OF MOLLUSCAN REMAINS FROM PARCEL D-10, BOSTON HARBOR

By Russell J. Barber

Institute for Conservation Archaeology
Peabody Museum
Harvard University
Cambridge, Massachusetts

October 25, 2983

INTRODUCTION

This document reports the identification and analysis of molluscan remains recovered during archaeological excavations at Parcel D-10 in downtown Boston, Massachusetts. The specimens were collected and submitted for analysis by Beth Bower, Archaeologist for the Museum of Afro American History and director of the archaeological work at this location.

The specimens studied were sorted from soils removed from Trench 1. The uppermost deposits from which shells were extracted lay at 12 feet below surface and dated to the second half of the eighteenth century. The deepest deposits lay at 15 feet below surface and apparently pre-dated European presence in Boston. The 1711 construction of the wharf corresponds to the deposits at 13.9 feet below surface and a bit higher.

It is assumed that all of the shells recovered and analyzed came to their sites of discovery through natural processes rather than human intervention. That is, the creatures whose shells were found are believed to have lived and died near where the shells were found, not to have been collected at one spot and consumed at another, with the shells discarded at a third spot. The nature of the assemblage--with a predominance of small individuals of species not normally eaten by human beings--supports this assumption.

Because of this assumption, the primary goal of this analysis has been the documentation of the changing environment of the harbor bottom. In large part, the change has been the result of recent human modification of nearby areas.

IDENTIFICATIONS

Table 1 summarizes the molluscan remains per each depth unit. (Table 2 gives common names.) To be counted in Table 1, a shell needed to include the umbo of "hinge" (for bivalves) or spire (for snails). If this criterion were not in force, fragmentation would inflate certain species counts more than others. For snails, the numbers in Table 1 are minimum numbers of individuals; for bivalves, the numbers equal about twice the minimum numbers of individuals.

All of the species identified are presently found in the vicinity of Boston Harbor, and no range extensions are necessary. All are marine species that could have lived in Boston Harbor.

ENVIRONMENTAL TOLERANCE

Table 2 outlines the environmental tolerances of the species identified in the assemblage. When coupled with the vertical distribution information in Table 1, several patterns emerge.

First, two species requiring intertidal, hard substrates (Littorina obtusata and Mytilus edulis) occur in the

lower levels but not in the upper. This suggests that intertidal rocks may have been removed or covered sometime around the construction of the wharf.

Second, at about the same time, there appears to have been filling or dredging of adjacent mudflats. One mudflat species (Cumingia tellinoides) appears in both early levels but in no later levels. Another mudflat species (Mya arenaria) continues through all levels but in continually decreasing densities.

Finally, the presence of Mulinia lateralis only in the lower levels suggests that the sediment load increased after wharf construction. Alternatively, wharf construction may have altered currents in such a way that the quiet water needed by this species no longer was available.

Throughout the entire sequence, subtidal bottom dwellers requiring mud substrates abounded, indicating a continuity of this environment from earliest times until filling.

SIZE DISTRIBUTION

Table 3 presents data on size distribution of Mya arenaria from the assemblage. The size of the chondrophore, the spoon-like projection on the left valve of shells of this species, has been shown to have a very high correlation with the clam's overall size and, by inference, its age (Nelson 1975). This table, therefore, provides a rough mortality table for clams in different levels. It should be remembered,

however, that breakage affects small shells inordinately, skewing the measurable sample; also, already small samples were made even smaller by the exclusion of right valves (with no chondrophores) and valves with broken chondrophores.

Shipman (1981) and others have discussed the typical mortality distribution for catastrophic death assemblages (where a catastrophe produces an assemblage with the same characteristics as a living population--many young and gradually decreasing numbers in other categories with increasing age) and for atrritional death assemblages (where a population gradually dies from natural causes, creating an assemblage which mirrors typical ages at death--many young and old, but relatively few in the intermediate category).

The size distributions from the upper levels, though based on small populations, suggest attritional death. The distribution from the 13.5-13.9 ft. depth, on the other hand, is more difficult to interpret. It fits the basic catastrophic death assemblage, but the intermediate age category is considerably too high and the old category may be a bit underrepresented. This probably indicates a mixture of a catastrophic death assemblage (created by wharf construction?) with a preceding or succeeding attritional death assemblage.

The final and deepest assemblage fits no known model of death frequencies. It is either a truncated distribution where the larger individuals have been removed (perhaps by

predators?) or an inflated distribution where smaller individuals have been concentrated (perhaps by currents?). Neither of these explanations is particularly attractive, since bottom-feeding predators are infrequently so selective as implied, and since there are no indications of the concentration of other small bivalves in this level. The proper explanation remains unclear.

SUMMARY

Based on the analysis given above, the following conclusions seem warranted. In the prehistoric period and early historic period, this portion of the Boston Harbor included hard, intertidal (rocky?) substrates and mudflats. About the time of the construction of the wharf (1711-1763), the sediment load of the water increased, and the hard, intertidal surfaces were either destroyed or covered. At the same time, the amount of mudflats reduced considerably. This period also seems to have seen catastrophic mortality of certain shellfish, perhaps as a result of wharf construction. Throughout the period represented, subtidal and mud substrates continued to support shellfish.

REFERENCES

Nelson, Charles M.
1975 Understanding prehistoric subsistence in New England: the exemplary soft shell clam. In Barbara Luedtke, Final Report on the Archaeological and Paleobotanical Resources of Twelve Islands in Boston Harbor, pp. 98-111. Report to the Metropolitan District Commission, Boston.

Shipman, Pat
1981 Life History of a Fossil: an Introduction to Taphonomy and Paleoecology. Harvard University Press, Cambridge, MA.

Depth Below Surface	*Littorina obtusata**	*Nassarius trivittatus**	*Mytilus edulis*	*Mya arenaria*	*Cumingia tellinoides*	*Mulinia lateralis*	*Nucula proxima*	*Macoma balthica*	*Macoma* sp.
12 feet	--	2	--	2	--	--	10	--	--
12 - 13 feet	--	6	--	17	--	--	10	2	--
13.5 - 13.9 feet	2	11	2	23	4	37	1	7	27
13.9 - 15 feet	--	3	9	54	1	--	1	--	--

Table 1. Numbers of shells per species and depth. Snails are marked with an (*); all other species are bivalves. All soil samples from which these were sorted measured approximately 25 liters except for the 12 - 13 ft. sample, which measured approximately 50 liters.

Species	Common Name	Environmental Tolerance
Littorina obtusata	round periwinkle	intertidal, hard substrate, among rockweeds
Nassarius trivittatus	--	subtidal, shallow water, mud substrate
Mytilus edulis	blue mussel	intertidal or subtidal (rarely, shallow water), hard substrate
Mya arenaria	soft shell clam	intertidal or (less commonly) subtidal, mud substrate, especially mudflats
Cumingia tellinoides	--	intertidal or subtidal, mud burrower, especially mudflats
Mulinia lateralis	dwarf surf clam	subtidal, shallow and quiet water with low sediment load, sand or mud substrate
Nucula proxima	nut clam	subtidal, shallow water, sand or mud substrate
Macoma balthica	--	subtidal, bays or inlets, shallow water, mud or sandy mud substrate
Macoma sp.	--	subtidal, bays or inlets, shallow water, soft substrates

Table 2. Species present and environmental tolerances.

Depth, Below Surface	Chondrophore Length, mm. 0 - 5	5 - 10	10 - 15	over 15
12 feet	1	1	--	--
12 - 13 feet	4	4	1	--
13.5 - 13.9 feet	7	4	6	--
13.9 - 15 feet	14	3	--	--

Table 3. Size distribution, Mya arenaria.

A P P E N D I X VIII

PUBLIC COMMENTS ON DRAFT AND SUPPLEMENT

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

RECEIVED
SEP 1 1982

EDWARD J. KING
GOVERNOR

JOHN A. BEWICK
SECRETARY

CERTIFICATE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS

ON

DRAFT ENVIRONMENTAL IMPACT REPORT

PROJECT NAME:	Marketplace Center
PROJECT LOCATION:	Boston
EOEA NUMBER:	4389
PROJECT PROPONENT:	Marketplace Center Associates
DATE NOTICED IN MONITOR:	July 22, 1982

The Secretary of Environmental Affairs herein issues a statement that the Draft Environmental Impact Report submitted on the above referenced project does not adequately and properly comply with Massachusetts General Laws, Chapter 30, Section 62-62H inclusive, and the regulations implementing MEPA.

On several major issues discussed in the Scope, the Draft EIR provides little or no information beyond the material supplied in the Environmental Notification Form. Especially in view of the report's large volume, it provides remarkably scanty information, and the reader is forced to search through the technical appendices for information which should have been included in the 49-page text. The report cites alternatives but does not evaluate them or draw conclusions. It contains assurances that analyses required by the Scope will be undertaken but makes no attempt to share the analyses with the reviewing public. Deficiencies of this nature occur in the following areas:

Visual Impact
Archeology
Shadow Impacts
Wind Stress Analysis
Energy Use
Setback from Central Artery (based on consultation with Mass. DPW)

In addition to the above issues on which information in the Draft EIR is either absent or insufficient to enable evaluation, the analyses provided in the following two areas respond inadequately to the Scope:

Pedestrian Level Wind Study
Parking

Comments received on the ENF were not included in the EIR, as required by the first paragraph of the Scope.

VISUAL IMPACTS

The Scope asked for illustrations of the project's visual impacts on National Register Buildings from all vantage points from which the historic buildings will be affected. Three views in the immediate vicinity of the project were provided, yet the Customs Tower can be seen from points throughout the City in a much wider area. The new high rise will become part of the skyline. What will it look like in relation to the Customs Tower from more distant points? What is its proposed height in feet, and how does this compare to the height of the Customs Tower? Will any existing views of the Customs Tower be blocked? These views, too, should be illustrated. What is the impact of the proposed building height, and of alternative reduced heights, on shadows cast over Faneuil Hall Market as well as on views of the Customs Tower?

No sketches were presented to illustrate the project's impact from the Central Artery or from the Walk to the Sea east of the Artery. Views of the Customs Tower can currently be enjoyed along the entire stretch of shorefront at Waterfront Park and westward along the Walk to the Sea, commencing at a point near the north entrance to the Marriott. The sketches should show how the proposed project, as well as alternative reduced heights, would affect these views.

At the April 20, 1982 scoping meeting the proponent's representative agreed to meet with the Mass. Historical Commission and the Boston Landmarks Commission to review the project's design for compabibility with existing historic buildings. I understand that no meetings for this purpose have taken place. Design information presented in the EIR is quite general; the meetings could serve as a mechanism for developing specific design details compatible with the surroundings. References in the EIR to materials "consistent with the design vocabulary of Faneuil Hall" and "consistent with the historic setting but easily negotiated by the elderly, handicapped and persons wearing high-heeled shoes" are meaningless unless the reader is told what the materials are.

ARCHEOLOGY

The signing of a contract with Mass. Historial Commission for an archeological survey is a good first step; however, as stated in the Scope, it is the results of the survey which are of interest for the EIR evaluation.

SHADOW IMPACTS

The shadow studies should be reviewed as part of the Draft EIR.

WIND STRESS ANALYSIS

The Draft EIR ignores the requirement for analysis of wind impacts on the project's buildings and on other nearby buildings.

ENERGY USE

The discussion of energy use contains no evaluation whatsoever of alternate heating and cooling systems or energy conservation measures, but states instead that the mechanical/electrical engineer will recommend a favorable system.

SETBACK FROM CENTRAL ARTERY

There is no mention of the setback distance of the buildings from the Central Artery structure and no indication that this matter has been discussed with the Mass. DPW, as required by the Scope.

PEDESTRIAN LEVEL WIND STUDY

The wind analysis is totally unresponsive to the Scope. Instead, its stated intent is to satisfy what it terms the "Boston Redevelopment Authority criteria": peak gusts must not exceed 31 mph greater than 1% of the time. The 31 mph velocity is normally considered the danger threshold for pedestrians. As the comment from BRA indicates, the BRA environmental guideline is not intended to substitute for an evaluation of wind impacts other than peak gusts on the numerous pedestrian activities which occur near and at the project site. Nor does it imply that mitigation is unnecessary if the guideline is satisfied.

The study methodology is not adequately described.

1. The term peak gust should be defined. It is important that the definition include the time duration used to measure peak gust to determine whether it actually describes the worst case.

2. Based on findings of other Boston wind studies (Copley Place, Dewey Square), the existing conditions described in the assessment appear to understate wind conditions. The EIR should provide the actual Logan wind data used in the study and explain how it was used. The annual wind data gathered over a thirty-five year period at Logan, cited in the study, may not be relevant for two reasons: the airport data are usually given in one-hour records; and changes in the geometry of the City over the past 35 years have tended increasingly to reduce wind velocities at Logan for wind directions which place the City upwind of the airport.

3. The study should state what velocity profile was used and give the rationale for it. For winds originating over the water, an ocean profile is more appropriate than an urban profile.

4. The study appears to have analyzed a limited number of prevailing wind directions, including a range of westerly directions and one due east. How did it account for wind directions not tested in arriving at the probability of exceeding the 31 mph criterion? Prevailing winds may not indicate all significant wind speeds, as experience with the Hancock building demonstrates. Although winds from the southeast and northeast have a low probability of occurrance, they can be very strong and should not be disregarded. An acceptable study should examine a wider range of wind directions in a systematic manner, for example every ten degrees, rather than preselecting prevailing winds.

PARKING

The EIR should respond to parking issues in the appended comments from the BRA and MAPC.

The Draft only partially addresses the question of applicability of the parking freeze. The EIR should show that there will be an enforceable system for assigning and limiting parking to tenants of the building.

The Deficiencies discussed in the preceding paragraphs should be remedied in a supplement to the Draft EIR, to be filed with MEPA and circulated as described in the Scope. Comments relating to the issues which follow should be addressed in the Final EIR, but need not be addressed in the supplement to the Draft.

UTILITIES

The Draft EIR discusses alternative means for relocating or accomodating the numerous utilities on or near the site but reaches no conclusions. Because this issue is important to the utility companies and could affect the design configuration of the project, it is essential that questions relating to utilities (including the MBTA Blue Line tunnel) be resolved prior to filing of the Final EIR. The disposition of each utility, as well as any precautionary measures needed to protect it or allow access to it, should be presented in the Final EIR.

TRAFFIC

1. The fourth numbered paragraph under Traffic in the Scope, which relates to visibility of vehicles exiting from the site, was not adequately addressed. What will be the effect on congestion of widening the sidewalk and eliminating one southbound traffic lane on Surface Road? Will Surface Road again become three lanes immediately south of the proposed exit?

2. A second access/egress to the garage on the vehicular portion of Commercial Street does not appear justified, given the Level of Service B conditions at p.m. peak hour at the State Street/Surface Road intersection and given the BRA's desire to promote pedestrian activity on Commercial Street.

MITIGATION

1. The Draft EIR provides, in the Appendix, Boston's Regulation for Control of Noise. The discussion in the text does not say what noise levels are applicable for the zoning district in which the site lies. The text refers to construciton noise levels measured at a distance of 50 feet; however, Regulation 3 sets noise limits to be measured from the property line of a construction site. Please clarify these points in the Final EIR.

2. Pages 41-43 of the Draft describe potentional noise-mitigating measures, but it is not clear from the discussion whether the proponent will implement those measures.

3. The DEIR offers several excellent suggestions to minimize construction impacts. These include

--a plywood fence surrounding the site
--rerouting the Walk to the Sea to keep it open during construction
--proposed construction vehicle routing to avoid sensitive areas
--an informational kiosk at the construction site.

I suggest that the Construction Manager be publicly designated to answer questions and address unforeseen problems during construction, that he be available at the site during working hours for this purpose and that instructions on how to reach him be posted at the informational kiosk.

4. The Final EIR should contain a listing of all mitigating measures which the proponent intends to implement.

Appended comments from the BRA and MAPC should be addressed in the supplemental Draft or the Final EIR, as appropriate. The comment from the DEQE Division of Air Quality Control should be addressed in the Final Report with the appropriate corrections made. All comments on the Draft EIR should be included in the Final EIR.

August 27, 1982
DATE

Samuel A. Myatt for
JOHN A. BEWICK, SECRETARY

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

MICHAEL S. DUKAKIS
GOVERNOR

JAMES S. HOYTE
SECRETARY

CERTIFICATE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS

ON

SUPPLEMENT TO THE
DRAFT ENVIRONMENTAL IMPACT REPORT

PROJECT NAME:	MARKETPLACE CENTER
PROJECT LOCATION:	BOSTON
EOEA NUMBER:	4389
PROJECT PROPONENT:	MARKETPLACE CENTER ASSOC.
DATE NOTICED IN MONITOR:	JANUARY 10, 1983

The Secretary of Environmental Affairs herein issues a statement that the Draft Environmental Impact Report submitted on the above referenced project, as supplemented, does adequately and properly comply with Massachusetts General Laws, Chapter 30, Section 62-62H inclusive, and the regulations implementing MEPA.

The Certificate of the Secretary of Environmental Affairs dated August 27, 1982 identified issues not adequately addressed in the Draft EIR and required the proponent to submit, for public review, supplementary information on those issues. The discussion which follows refers to the Supplement to the Draft EIR and to comments received during its review from agencies and members of the public. This discussion, together with comments relating to the Final EIR in the August 1982 Certificate and the annexed public and agency comments should be responded to in the Final EIR. A copy of the Certificate and the appended comments should be contained in the Final EIR.

INTRODUCTION

The appropriate development of Parcel D-10 is of exceptional importance to Boston and to the Commonwealth. This site is critical to Quincy Market, to the Customs House Tower, and to Boston's historic relationship to the sea. The Draft Supplemental EIR is analytically sound, remedying many of the defects in the Draft EIR. It constitutes a good basis for understanding the impacts of the project, and as such it has stimulated many thoughtful public and agency comments.

The job which remains to be done, by both the BRA and the proponent, is to develop ways to minimize the impacts of the project, including exploration of alternatives. Both the developer and the BRA have important roles to play in the development of the Final EIR. The BRA is in an unusual position in this review. Not only is it a regulatory agency, with the power to effect changes to minimize project impacts, but it is a landlord and quasi-developer, with a future stake in the revenues generated by the project. This dual role, where the agency understandably wants to maximize rents even as it minimizes impacts, will force it to make difficult decisions.

Because of the importance of the issues at stake, it is essential that the Final EIR serve as an effective decision document, clarifying the issues, eliciting further public input, and providing a sound basis for the findings BRA is required to make by the Massachusetts Environmental Policy Act. Such findings include not only a description of the project's impacts on the environment, but a finding that all feasible measures have been taken to avoid or minimize such impacts. This means that the Final EIR submitted by the developer should include an Appendix prepared by the BRA which addresses certain issues from the Authority's perspective. I look forward to reviewing the Final EIR and Appendix, and am confident that the project which emerges will be in the best interests of the City and the Commonwealth.

VISUAL IMPACTS

The visual impact analysis in the Supplementary Draft EIR has stimulated numerous comments by professionals and laypersons alike. The comments are directed primarily toward the visual effects of the height and massing of the proposed office tower on the setting of Quincy Market, North and South Markets and the buildings in the Custom House National Register District. They can be summarized as reflecting two sentiments: an appreciation for the historic districts and buildings surrounding Parcel D-10 which make the area unique in Boston and on a national scale; and a desire to safeguard them from being obscured, overpowered or obliterated from view by an office building of inappropriate dimensions.

The objective of the visual impacts analysis is to determine whether the project has the potential to adversely affect the visual environment, and, if so, to evaluate ways of minimizing its adverse effects. The analysis did identify an adverse impact, namely, visual incompatibility of the proposed office building with historic resources and pedestrian areas surrounding the site. Building designs of lesser dimension, and possibly modifications in design features, appear to offer the only prospects for minimizing this impact. I urge the proponent and the BRA to give careful consideration to the appended letters as they develop and evaluate alternative measures to minimize visual impacts of the proposed development. In view of the magnitude of the impacts shown in the Draft EIR and Draft Supplement, mitigating measures and alternatives must be explored in the Final EIR, as follows:

1. The developer should evaluate the visual impacts of an alternative to the proposed development which conforms to the BRA's height guideline of 220 feet, as initially proposed in the ENF, and which complies in all other respects with the BRA's written guidelines for Parcel D-10;

2. The developer should propose measures to minimize adverse visual impacts. The measures should aim to reduce or downplay the office tower's dominance vis-s-vis nearby buildings and accentuate its relationship to them. The aim of this analysis is to determine whether alternative height, massing and design features could result in a development which is more consistent with the scale of the existing buildings. Sufficient dimensional data and graphic material should be provided to enable comparisons of each alternative or modification with the proposed development and to illustrate how each relates to nearby landmark buildings. The following information should satisfy these criteria.

- o square footage
- o building height
- o comparison of height and ground elevation between D-10 development and the Custom Tower
- o perspectives comparing the size of the development alternative in paragraph 1 above to the Custom Tower in numbers of surface measurement units, and showing the alternative from the same vantage points used to illustrate the visual effects of the proposed development in the Supplementary Draft EIR
- o sketches illustrating the effects of mitigating measures proposed in response to paragraph 2 above
- o a discussion of the advantages and disadvantages of each mitigating measure proposed, including the alternative development.

3. Mr. Robert J. Ryan noted, in his letter commenting on the proposed development, that "there are major shadow impacts on Commercial Street and a loss of significant views of the Custom House Tower and the Boston Skyline from certain vantage points". I recognize that the Boston Redevelopment Authority is aware of the visual issues and is working with the developer to generate appropriate mitigating measures to address these and other impacts. However, decisions by the BRA establishing dimensional guidelines and setting an annual rent for the site may have, in effect, dictated the building's height and massing. After careful consideration of the issues raised by public comments and the impacts of the proposal, I am asking the BRA to supply, in an appendix to the Final EIR, a discussion of how this proposal was selected. It should clarify the relationship of the proposed development to the BRA's development guidelines for the site and the reasons for selection of the proposed development over the proposals by other finalists. This discussion should contain the BRA's response to the public comments filed herein. It should also address the following points:

1. The BRA's guidelines for Parcel D-10 establish objectives for and place limitations on development of the site, and set the standards for the project. It appears that the project has grown, exceeding those guidelines in ways which increase environmental impacts. In what respects have the guidelines changed since the request for proposals was issued: What limit on floor area ratio was imposed by the BRA at that time?

2. State how the proposed development related to the guidelines at each of the following states:

- filing of the ENF
- filing of the Draft EIR
- filing of the Supplement to the Draft EIR

In what respects does the proposed development comply with or exceed the guidelines and the required FAR at each of the above stages?

Provision for the above information by the BRA is critical to proper review of the Final EIR.

ARCHEOLOGY

Archeological field work and studies appear to be progressing satisfactorily. I look forward to reading the archeological report and to a discussion of plans for the display of historic artifacts in the Final EIR.

SHADOW IMPACTS

I question the accuracy of the width of the shadow depicted for the Custom House Tower. The analysis does not appear to take into account the slimness of the upper portion of the tower, and the result is a broader shadow diagram that would actually be cast. Please review the accuracy of the shadow diagram and make any necessary corrections in the Final EIR.

The most severe shadow impacts identified by the study will be on Commercial Street (all seasons) in the morning and on currently unshaded portions of Waterfront Park (winter only) in late afternoon. Which measures developed to minimize visual impacts will also serve to reduce these shadow impacts? What other ways exist to minimize the impact on the two areas?

ENERGY USE

The computer energy analysis by Cosentini Associates (supplied separately to the MEPA office), and the commitment by the proponent to design the required 36,000 gallon sewage holding tank to provide thermal storage (chilled water) when it is no longer needed to hold sewage, respond adequately to energy requirements of the scope. The Cosentini energy analysis should be included as an appendix in the Final EIR for the benefit of the reviewing agencies and individuals.

SETBACK FROM CENTRAL ARTERY

The Supplement to the Draft EIR states that the proponent has instructed the architects to redesign the proposed tower so there is no intrusion over the no-build line designated by the Massachusetts Department of Public Works. According to the MDPW, the proximity of the building to the Central Artery does not pose a problem so long as the no-build line is not violated. Intrusion beyond the line would not be acceptable to the MDPW.

PEDESTRIAN LEVEL WIND STUDY

The Pedestrian Leval Wind Assessment by Morrision Hershfield Limited is generally responsive to the scope. Methodology is carefully explained. Measurements are well-defined. Where assumptions are necessary, they appear to have been made conservatively, to the benefit of pedestrians. The result is a readable analysis which identifies problem areas and produces some constructive suggestions for increasing pedestrian comfort.

One such suggestion, which aims to reduce wind speeds alongside the proposed office tower on State Street, is the construction of a two-story building section with a one-story arcade flanked by conifers on State and Commercial Streets. The proponent should clarify, in the Final EIR, whether he intends to implement this recommendation.

Location 7 on Commercial Street has high wind speeds for its intended use even after the proposed mitigation (23.8 mph effective gust exceeded 1% of the time and 13.4 mph effective gust exceeded 20% of the time, whereas the comfort criteria for standing and strolling is 17 mph and 10 mph, respectively). Remedial measures for location 7 should be evaluated in the Final EIR.

The east-west passage through the development, encompassing locations 17, 18 and 19, was found to exceed the 22 mph comfort level for walking. Tests indicated that significant reductions in wind speed are achievable with the addition of glass walls at the western end of the arcade and coniferous plantings through the passage. The plantings, which reduce wind speeds at location 18 significantly, are included as a remedial measure. The glass walls were omitted for architectural reasons. As a result, pedestrians will still experience winds close to or exceeding the comfort limit for walking at locations 17 and 19. The passageway is a central feature of the development. Its importance is emphasized in the BRA design guideline, which states:

> "o The building mass should relate well to the Walk-to-the Sea. Care should be taken to preserve the attractiveness of the walk from the sea as well as to the sea, and to accommodate the pedestrian movement and enhance the activity of North Market Street as well as South Market Street."

The matter of remedial measures for locations 17 and 19 should be re-examined to determine whether it is possible to reduce wind speeds while preserving the architectural integrity of the development. Conclusions should be included in the Final EIR.

The appended comment from Mr. Robert Ryan discusses six additional locations of importance to pedestrians which exhibit elevated wind speeds (locations 12, 20, 45, 46, 16 and 19). Although the BRA safety limit of 31 mph is not exceeded in terms of effective gust, wind speeds are nevertheless high and deserving of mitigation. Please propose mitigating measures for the six locations in the Final EIR and also respond to Mr. Ryan's request for a clarification of why location 40 was not modeled "with building and solutions", whereas other locations experiencing decreased speeds under build conditions were modeled.

WIND STRESS ANALYSIS

The principle beneficiary of this analysis is the proponent. The tests are, however, also of interest to the public in that they demonstrate that the addition of Marketplace Center will not substantially increase wind loads on nearby structures.

PARKING

The parking survey indicates that there is a substantial number of available spaces in the vicinity of the site. Why was the garage at 30 Kilby Street (capacity 700 cars) listed but not included in the totals for the parking availability survey? How will the City's plans to sell parking garages to private developers affect the total spaces available?

2/16/83
DATE

James S. Hoyte
JAMES S. HOYTE, SECRETARY

Boston Redevelopment Authority

Robert J. Ryan/Director

RECEIVED

FEB 8

OFFICE OF THE SECRETARY
OF ENVIRONMENTAL AFFAIRS

February 7, 1983

Secretary James Hoyte
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02202

ATTENTION MEPA UNIT

Dear Secretary Hoyte:

RE: EOEA #4389: Marketplace Center Project, Supplement to Draft EIR - Boston

Pursuant to regulations implementing M.G.L. Chapter 30, Sections 62-62H, the Boston Redevelopment Authority has reviewed the above-referenced report and submits the following comments:

In our comments on the Draft EIR for Marketplace Center, we raised several questions and requested additional information. The developer has responded to these concerns in the Supplement to the Draft EIR and we feel that the information he has provided on traffic and parking, setback from the Central Artery, visual and shadow impacts and energy usage adequately addresses these concerns.

It appears that the projected energy consumption of 57,000 BTU's per square foot per year for the total project maximizes energy conservation given the site, building functions and cost factors. The developer's engineer indicates that the sewerage holding tank will be designed to provide thermal storage for the project in the future. We are very pleased that this element will be incorporated into the project and encourage this energy conservation effort.

The report has provided an extensive evaluation of the visual and shadow impacts of the project. It is noted that there are major shadow impacts on Commercial Street and a loss of significant views of the Custom House Tower and the Boston skyline from certain vantage points.

The wind analysis conducted for the project was quite extensive and valuable. It makes the complex assessment of pedestrian level wind effects understandable and enables the reader to evaluate the impacts and potential mitigation measures. It is a considerable improvement over the brief report presented in the Draft EIR and presents significantly different conclusions. In particular, we note that the wind tunnel testing indicates that, even with mitigation measures,

1S1020383
City Hall Square
Boston, Massachusetts 02201
617.722-4300

there are six locations where the BRA criterion of peak wind gusts of 31 mph greater than 1% of the time is exceeded. Three of these sites are in the vicinity of the Custom House (#'s 12, 20, 45) where a future pedestrian plaza is under design by the BRA. The incorporation of mitigation measures into the design of this plaza should be explored with the BRA prior to final design decisions. A fourth location is on State Street (# 46) where mitigation measures such as appropriate tree plantings could be evaluated.

The remaining two excessively windy sites are between the office tower and the Central Artery (#16) and at the project's entrance to the Walk-to-the-Sea (#19). Further mitigation measures could be explored at #16; however, at #19 it is most important that the pedestrian is not significantly affected and that the passage to the Walk-to-the-Sea encourages pedestrian movement.

The BRA, as part of our formal design review process for this project, is working with the developer to generate appropriate mitigation measures for these important pedestrian areas. Progress on these analyses and mitigation measures that will be included should be described in the Final EIR.

With regard to the wind analysis, the Final EIR should clarify why location #40 was not modeled for the "with building and solutions" condition. This also is an important pedestrian area. The conclusion that it would not be greatly influenced by remedial measures is not supported by results of remedial measures at other similar locations.

It is anticipated that the Final EIR will include the results of the archaeological survey and a resolution to the technical problems of relocation of the utilities on-site.

Sincerely,

Robert J. Ryan
Director

MS1020383

MASSACHUSETTS
HISTORICAL
COMMISSION

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DEC 1 1982

COMMONWEALTH OF MASSACHUSETTS
Office of the Secretary of State
294 Washington Street
Boston, Massachusetts
02108
617-727-8470

MICHAEL JOSEPH CONNOLLY
Secretary of State

November 29, 1982

Mr. James F. Sullivan
Marketplace Center Associates
189 State Street
Boston, MA 02109

Dear Jim:

Thank you for your letter and reminder of November 17, 1982. As you know, the MHC staff has reviewed plans and models for the proposed structure on Parcel D-10 to determine its affects on the Quincy Markets and its compatability with the Custom House Historic District. I am pleased to note that the design incorporating the most recent alterations should make a commendable neighbor for both historic districts. We have noted that the massing and scale of the lower rise commercial end responds favorably to the Market Buildings while the larger office tower joins the row of larger structures along State Street reinforcing the character and importance of this historic Boston street and contributing to the proper setting and containment of the Custom House Tower. As we have discussed, although we believe a lower structure would have less potential for visual conflicts with the Custom House Tower and would have been preferable, the current proposal will not adversely affect the setting or character of the tower.

Your architects have designed a most unusual and imaginative structure which promises to be a welcome addition to the City in this prominent location.

These comments and our review have been undertaken to provide assistance to the Executive Office of Environmental Affairs in its application of the Massachusetts Environmental Policy Act. As we have discussed earlier, the absence of regulations and the lack of a published State Register of Historic Places has delayed our implementation of Chapter 152 of the Acts of 1982.

Sincerely,

Valerie Talmage

Valerie Talmage
State Archaeologist
Acting State Historic Preservation Officer
Massachusetts Historical Commission

VT/pg

xc: Massachusetts Environmental Protection Agency

BOSTONIA
CONDITA A.D.
1630

Boston Landmarks Commission
City Hall Annex
Boston, Massachusetts 02201
(617) 722-4300

City of Boston
Kevin H. White, Mayor

Members
Pauline Chase Harrell
Chairwoman
Lawrence A. Bianchi
Roby Blank
Thomas A. Brickus
Jean S. Davis
Thomas J. Hynes, Jr.
Martha L. Rothman
Bass Warner
Jerry A. Wood
Staff
Anna Aldrich
Richard O. Anderson
Alice F. Cooke
Ellen E. Goody
Arnold E. Hiorn
Hikaru
Paul

8 February 1983

Secretary James Hoyte
Executive Office of Environmental Affairs
Leverett Saltonstall Building
100 Cambridge Street, 20th Floor
Boston, Ma 02202

ATTN: MEPA Unit

RE: Marketplace Center # SA 2062-01

Dear Secretary Hoyte:

At a public meeting on Tuesday, 25 January, 1982, the Landmarks Commission discussed the proposal for Marketplace Center and voted unanimously to state its objections to the height and bulk of the building. It is the commission's view that this new building will have a serious negative impact on long standing as well as current, views of the Custom House Tower.

Previous reviews by the staff of the Landmarks Commission and the Massachusetts Historical Commission have focussed on the effect of the proposed building on the immediate setting of Quincy Market, North and South Markets and the properties in the Custom House National Register District. These reviews have examined the relationship of the street-level set back to the rest of State Street and the massing and materials used on the lower portions of the project in relationship to the Markets. We understood that a number of issues have been resolved during these reviews. Unfortunately, the most important issue in the view of this commission, the height and bulk of the office building, has not been satisfactorily addressed to date. The studies included in the supplementary EIR demonstrate clearly that the project as proposed will seriously damage views of what is perhaps Boston's most prominent Landmark in the true sense of a notable orientation point, the Custom House Tower. The tower stood alone on the Boston skyline for roughly fifty years. While many important distant views, such as those from the Back Bay, have certainly been blocked by recent additions to the skyline, these taller buildings have not intruded on the immediate space of this unique structure. The tower has retained its importance from the harbor, the waterfront and the Central Artery at least. If this proposed building is constructed, the tower will be blocked, diminished, even totally obscured from its own immediate environment.

The Boston Landmarks Commission is concerned not only with the preservation of the particular buildings which contribute to the City's character, but the way in which these special buildings are seen and enjoyed and allowed to announce the particular qualities which made Boston uniquely Boston. It will be unfortunate if the exigencies of real estate development are allowed to diminish both new and old views of Boston's extraordinary historic resources.

Sincerely,

Pauline Chase Harrell

Pauling Chase Harrell
Chairperson

PCH/JH/bec

MEPA

RECEIVED

FEB 10

OFFICE OF THE SECRETARY
OF ENVIRONMENTAL AFFAIRS

324 Payson Road
Belmont, Massachusetts 02178
February 7, 1983

Mr. James S. Hoyte
Secretary of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

Dear Mr. Hoyte:

I am writing you in regard to Marketplace Center, which unfortunately only recently came to my attention via The Boston Globe's editorial this past Saturday (cf. "Marketplace Center mess", 2/5/83). I am strongly opposed to the erection of a 21 story office complex on a site adjacent to Quincy Market, a landmark of significance not only to Bostonians but also to all who have regard for the nation's historic past. Quincy Market, which is understandably listed on the National Register of Historic Places, is slated to be dwarfed by an office building totally inappropriate to its surroundings in terms of its height, size, and possibly its architectural style. The B.R.A. seems to bear the brunt of the responsibility for this decision. Are profit and expediency the prime motives? Why has there been from the onset no meeting to inform and involve the public in this proposal?

As a concerned citizen and a native of Boston, I am dismayed by the trend in the City toward high-rise buildings and the disregard for their impact on the environment. I hope that you and your Agency will carefully weigh the negative aspects of this most recent assault on the City's historic treasures, i.e. Quincy Market, the Custom House Tower, and the Waterfront Park, which are part of our heritage and make Boston unique. I would like to be notified when the final environmental impact report on E.O.E.A. #4389 is reviewed. Thank you for your time and consideration.

Sincerely yours,

Margaret Boyajian

Margaret Boyajian

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

MICHAEL S DUKAKIS
GOVERNOR

JAMES S. HOYTE
SECRETARY

Re: Marketplace Center

February 9, 1982

Mr. Samuel Mygatt
Director, MEPA Office
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

Dear Mr. Mygatt:

The Coastal Zone Management Office offers these comments under Policy12 of our Program and Section 61 of MEPA whereby the state agency is charged to find that, prior to project approval, all practicable means and measures have been taken to minimize damage to the environment, including "destruction, damages, or impairment, actual or probable to .... historic districts or sites." For the state agency to make a rational decision which considers the environmental effects of a proposed project, the EIR must lead to full and timely disclosure of its likely environmental impacts.

In regard to the requirement of full disclosure, we feel that the Supplemental Draft EIR does not adequately address what has been termed "Visual Impact" by the MEPA Office.

In consideration of the Visual Impacts of Marketplace Center to be constructed on the BRA's parcel D-10, it is necessary to take a chronological look at the history of Parcel D-10 and its relationship to the larger series of redevelopment efforts ongoing near the water's edge in Boston.

D-10 is one of the renewal parcels included in the Downtown Waterfront-Faneuil Hall Urban Renewal Plan, Project MASS R-77, 1964, funded by the Federal Housing and Urban Development Department with a termination date specfied in Chapter XI, section 1102 of the plan as40 years from the date of the approval of the Plan by the City Council of the City of Boston.

This federally-funded Downtown Waterfront-Faneuil Hall Urban Renewal Plan was a visionary one, as revealed in Appendix A, OBJECTIVES, attached hereto, and Appendix B, GENERAL DESIGN PRINCIPLES. As this vision began to take form in the area, particularly in light of the transformation of Faneuil Hall into a national mecca thanks to the unrelenting vision of one architect, Ben Thompson, attention began to be paid to the irreplaceable historic fabric of the area.

Thus, in the 1970's both Faneuil Hall and the Marketplace buildings, as well as the bordering Custom House/Broad Street District were placed on the National Register of Historic Places. This action of the State Historic Preservation Officer of Massachusetts in the 1970's in effect said that these parts of our national historic heritage should be preserved. Further, the legal protection offered under 36 CFR 800.2 (c) states that if an "undertaking" is perceived as effecting districts listed on the National Register, appropriate action should be taken by those charged with caring for preservation of our national history as revealed in our built environment. Though the Supplemental Draft highlights the Massachusetts Historical Commission's concern for the archeological significance of Parcel D-10 and will have a report forthcoming on the same, the Commission has also stated that it has to be concerned with the Project's effect on the "setting."

Both the Draft EIR and comments made by the developer during review of the Supplemental Draft admit that "Marketplace Center will alter the visual character of major vistas of historic buildings in the area." Further, it is said that "Judgments as to visual impact are subjective at best." However, when judgments are being made on new additions to areas impacting not one but two National Historic Districts, it is recognized that there are objective professional criteria which can be used. These criteria are frequently used by the Advisory Council For the Protection of Historic and Cultural Resources and can be found in the Rules for the National Register of Historic Places, 36 CFR Part 63. We find information supporting the developer's conclusions totally lacking.

Pedestrians, whether it be concern for how they circulate or how they are impacted by wind and shadows, are spoken of in Scoping materials and responses to same. There are reams of technical data presented in this regard, revealing concern for the thousands of people who come from all over the world to visit the Marketplace. This concern for pedestrians however, can also be addressed by attention to the historic nature of the site as the new addition responds to the existing historic districts. Historic Districts command attention to the human scale. This newly planned addition in its bulk and mass does not.

The Central Artery has been mentioned as a factor to be dealt with since the Urban Renewal Days of the 1960's. It forms one of the boundaries of the Project and in the BRA Design Guidlines of June 15, 1981 it is mentioned in this way: "Whenever applicable, the building element should visually mask the Central Artery." With the return of Secretary Salvucci to EOTC and the revealing of the present administration's plans in this regard, (see Appendix D), we are requesting Secretary Hoyte, under the powers given him by Section 10.05:(2) of MEPA "to request additional information on apects of the project ..... upon showing that it was not reasonably possible with due dilgence to have stated such need during the consultation process under this section or the issue is of critical importance to the environmental consequences of the project." See Appendix C,

In regard to the requirement that the EIR be prepared and the environment considered as early in the project planning and decision-making process as is practicable, we believe, for projects such as the present one, that the

BRA and similar state agencies should be considered the project proponent as described in 310 CMR 10.02 (25). The BRA owns the land upon which the building is to be constructed and is leasing the land, contemplating such construction, 310 CMR 10.32 (1) (f); 310 CMR 10,32 (2) (g) d. The BRA, in setting the terms of the lease, particularly the rental amount, is in effect dictating the physical aspects of the structure, including the mass and dimensions, both of which are of critical importance in relation to the surrounding historic districts and buildings.

As the project proponent, BRA would have filed the ENF, and the environmental impacts could have been disclosed early in the planning process so that they could be addressed in the BRA Design Guidelines for the project, thereby ensuring that the selected developer would design a structure compatible with its environs. This process would, in future cases, avoid the potential situation of developers having to rely on design guidelines that had not been exposed to public comment under the MEPA process.

Sincerely yours,

Richard F. Delaney, Director CZM

RFD:MM:DD

SECTION 203: General Design Principles

The circulation system, the parcelization, the land uses, and the building controls and restrictions reflect the planning-design principles of the Urban Renewal Plan.

The design principles are as follows:

1. To mitigate the effect of the elevated expressway and the surface roadway beneath as a physical and psychological barrier to effective connections and linkages between the downtown and the waterfront.

2. To establish an active urban character for the area by the intensive utilization of land and by the mixing of compatible land uses.

3. To provide maximum opportunity for pedestrian access to the water's edge.

4. To establish an orderly sequence and hierarchy of open spaces and views for both the pedestrian and the motorist.

5. To establish a relationship between buildings, open spaces and public ways which provides maximum protection to the pedestrian during unfavorable weather conditions.

6. To achieve a proper integration of buildings and spaces by a careful relationship of scale and materials in new development to the scale and materials of the architecturally and historically significant buildings to be retained.

7. To establish a continuity of scale between the existing North End residential community and the new development to take place adjacent to the North End and along the water's edge, north of Commercial Wharf.

8. To maintain the finger-like outline of the wharves.

9. To create an unobstructed visual channel from the Old State House at Washington and State Streets down to Long Wharf and the harbor beyond.

10. To establish at the foot of State Street a vehicular free focal point of converging pedestrian ways and down-harbor views.

CHAPTER II: OBJECTIVES

SECTION 201: Basic Goals

The basic goal of urban renewal action in the Downtown Waterfront-Faneuil Hall Area is to stimulate and to facilitate development efforts in the area, by eliminating those severe conditions of blight, deterioration, obsolescence, traffic congestion and incompatible land uses which hinder private investment in new development without the aid of governmental action, in order to (1) revitalize a key portion of downtown Boston; (2) upgrade the pattern of land uses close by the North End residential community; (3) establish a functional connection between the area and its surrounding districts: the North End, the Government Center and the Financial District; and (4) provide an environment suitable to the needs of contemporary real estate development.

SECTION 202: Planning Objectives

Planning objectives of the Project are as follows:

(1) To eliminate a pattern of land uses and blighting conditions which

- (a) creates severe traffic congestion in the area;
- (b) exerts a depressing effect on adjacent areas;
- (c) inhibits the development of real property to its fullest economic potential.

(2) To eliminate obsolete and substandard building conditions which are a factor in spreading blight to adjacent areas.

(3) To prevent the further erosion of property values.

(4) To protect and strengthen the tax base of the city.

(5) To encourage productive and intensive use of land.

(6) To create opportunities for development of a downtown residential community offering a range of housing types and rentals.

(7) To provide sites suitable for the construction of efficient, economical buildings.

(8) To promote the preservation and enhancement of buildings in the Project Area which have architectural and historical significance.

(9) To create an environment which is conducive to the investment of funds in the rehabilitation, conversion and general upgrading of property.

(10) To create an area with a mixture of land uses compatible with living, working and recreational opportunities.

(11) To create an area for the development of marine or marine-oriented activities designed to stimulate tourism and symbolize the importance of Boston's historic relationship to the sea.

(12) To provide for the efficient flow of traffic within and through the area.

(13) To improve streets and utilities and the landscaping of public areas.

(14) To provide public ways, parks and plazas which encourage the pedestrian to enjoy the harbor and its activities.

(15) To develop the area in such a way as to stimulate improvements in adjacent areas.

Mass. to get extra funds for transit

APPENDIX C

US pledges $200 million

By Thomas Oliphant
Globe Staff

WASHINGTON – In a decision with major implications for the transportation needs of metropolitan Boston, the Reagan Administration has committed an additional $200 million in construction money for transit projects to the state of Massachusetts over the next three years.

The far-reaching decision, revealed in a letter on Friday from Transportation Secretary Drew Lewis to Sen. Edward Kennedy, will give the administration of Gov. Michael Dukakis unexpectedly broad latitude in making major decisions affecting access to Logan Airport, traffic in downtown Boston and mass transit needs in general.

"It's terrific from our standpoint," Dukakis said yesterday in a telephone interview.

One immediate result of the commitment from Lewis is that Dukakis can now consider halting plans for a third tunnel under Boston Harbor without worrying about losing any federal money as a result. In addition, the Dukakis administration will be able to make its transportation policy plans, secure in the knowledge of substantial increases in federal money – in marked contrast to the cutbacks that have reduced services in most other domestic programs.

DREW LEWIS
His letter approved funding

Addressing himself to both points, Lewis wrote in his letter to Kennedy:

"I know how important it is to state and local officials to know with as much certainty as possible the levels of federal assistance that will be available.

"Therefore, I am pleased to com-

TRANSPORTATION, Page 17

Boston-area independent truckers are angry enough about new taxes to join a nationwide strike tomorrow. Focus, Page 61.

US giving Massachusetts extra $200m for transit

■ TRANSPORTATION

Continued from Page 1

mit [pledge] that in addition to amounts that would be available should the commonwealth decide to proceed with the [cancellation] of the third Boston Harbor Tunnel, the department will make available over a three-year period out of discretionary transit funds an additional $200 million for the federal share of eligible projects in the Boston area."

Dukakis said the money would enable the state to consider alternative ways of improving access to Logan International Airport, as well as new projects which could involve, as an example, the Central Artery, which runs through downtown. Burying it underground is an old Dukakis dream.

"The important thing," the governor said, "is that we are now given an opportunity to look at our options on their merits without the fear that if we go in one direction or another we might lose federal money."

Under existing federal law, which Kennedy helped write in the early 1970s, gasoline tax funds earmarked for highway construction can be shifted to mass transit projects by states and localities if they so desire.

No provision for inflation

However, a potentially serious problem was created in the bill enacted last month that increases the federal gasoline tax to finance a national program of road and transit improvements. Federal money for highway projects would be automatically increased each year to compensate for inflation, but there would be no such automatic escalator for mass transit.

For Massachusetts, this meant that should Dukakis decide to halt plans for a third tunnel and seek a transfer of the federal portion of the project's estimated $1-billion cost to mass transit, the state would, in effect, be penalized. The immediate focus of negotiations between Kennedy and Lewis was to protect Massachusetts from any such penalty, which could have involved, according to one official, as much as $80 million.

In addition to the absence of protection against inflation, state Transportation Secretary Fred Salvucci said that the amount withdrawn from the tunnel project could have been deducted from future allocations of discretionary federal money to the state.

"This commitment is tremendously valuable," Salvucci said. "In addition to the big increase in aid, it is also something that's dependable, so we don't have to stand on our head in Washington each year and beg and beg and beg."

As Lewis noted, Massachusetts and Boston have both made aggressive use in the past of the flexibility in federal law that permits shifting money from highway to transit projects.

For his part, Kennedy yesterday called the decision by Lewis, who will be leaving the Reagan Cabinet for the private sector this week, "a strong vote of confidence by the federal government in the continuing efforts to improve mass transit in Boston and achieve a modern and balanced transportation system in our commonwealth."

Partisan politics aside, Kennedy and Lewis have had a quiet working relationship on a number of matters in recent months, particularly in the handling of a rail strike last fall and a bipartisan gasoline tax bill in December. Work between their two offices on the Massachusetts issue began about two months ago.

Nonetheless, for those who enjoy ironies, the handling of this matter is replete with them. On the one hand, one of Ronald Reagan's top officials worked out a solution to a touchy policy problem with one of the President's most vocal critics in the Senate.

And on the other hand, Lewis' decision will greatly aid Dukakis, who in last September's primary defeated Edward King, Reagan's favorite Democratic governor and who at one point thought he might have a chance for Lewis' job.

Moreover, the decision will make it easier for Dukakis to cancel a major project, the tunnel, that King ardently backed but that is opposed by the most prominent of Dukakis' backers in last fall's primary – Edward Kennedy.

And finally, Lewis got a chance to please the local congressman, another powerful tunnel foe, who was the key to House passage of the

HARVARD UNIVERSITY GRADUATE SCHOOL OF DESIGN

February 8, 1983.

RECEIVED
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OFFICE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS

Mr. James S. Hoyte,
Secretary of Environmental Affairs,
Executive Office of Environmental Affairs,
MEPA Unit,
100 Cambridge Street,
Boston, Massachusetts, 02202.

Dear Mr. Hoyte,

I am submitting herewith my comments and review of the draft Environmental Impact Report for the Marketplace Center project on Parcel D-10.

As a professional urban designer, who has been activiely involved in urban design for 30 years;- first as Chief Designer of the Philadelphia City Planning Commission (1953-61), later as Director of Urban Design for the Guayana Project of the Joint Center for Urban Studies of M.I.T. and Harvard University, involving the planning and design of an industrial city for 630,000 in Eastern Venezuela (1961-64) and until recently as Director of the Urban Design Program of the Harvard Graduate School of Design (1964-77), where I am Professor of Urban Design, Emeritus, - I am very concerned about certain aspects of the proposed project.

The Faneuil Hall - Quincy Market Area, which includes Parcel D-10, is, in my opinion, the finest example of a complete urban design and architectural ensemble from the beginning of the 19th century in Boston. Conceived by Mayor Quincy and designed by the architect Alexander Parris it has become a place cherished daily by thousands of office workers, shoppers, tourists or just residents of the Greater Boston area, who are seeking a pleasant place for relaxation, for meeting a friend, to do some shopping, to have a meal or just to have a change of scene.

This area is a great economic success, largely because it is a delightful urban environment where you can enjoy the architecture, the landscaping, the people and an environment of human scale where you still can see the sky over the cornices, dormers and roofs of historic buildings walking from Faneuil Hall toward the sea. The success of this area is endangered if incompatible development should take place on Parcel D-10.

Therefore was it most appropriate for the Boston Rdevelopment Authority to identify important design aspects in the area and to formulate a number of design guidelines, from which I have selected four important ones in order to make my point. I have numbered these guidelines for easy reference only. These BRA guidelines are the following:

CAMBRIDGE, MASSACHUSETTS 02138

1.) "The office element at the south end of the site must strongly relate to the 18th century State Street Block in terms of siting, form, and the character of the neighboring commercial buildings. *The visual impact of the office mass should be minimized. (stage II)

2.) "The building must complement, without overpowering, the historic Faneuil Hall Markets and the Granite State Street Block south of the site. (satge I)

3.) "The massing of D-10 should enhance the visual dominance of the Custom House Tower. (stage I)

4.) "Maximum height shall not exceed 220 feet above the State Street sidewalk. (stage I)"

I fully agree with the above design guidelines, except for the last one, number 4., which is utterly inconsistent and contradicts the three previous guidelines. In this location it is impossible to"minimize the visual impact" of an office building 220 feet high of unspecified width and depth, or to "enhance the visual dominance of the Custom House Tower".

The present proposal violates all four guidelines above. It does not "minimize the visual impact" (1), which is impossible with a structure of such dimensions; - it does not "complement without overpowering" the nearby historic buildings (2); - it does not "enhance the visual dominance of the Custom House Tower" and finally, it exceeds the height limit by 56 feet (4).

The effect of the 276 feet high office tower can be seen on the seven views attached to these comments. They are identified with capital letters "A" through "G". In order to assist on the objective assessment of the visual impact of the proposed office building in relation to the Custom House Tower, some of the illustrative views have outline sketches attached, which indicate the size of the two buildings in numbers of surface measurement units.

View "A", from the south side of Faneuil Hall looking eastward, raises an additional point. The large mass of the proposed office building looms over the roofs of the South Market buildings, obliterating the silhouette of this group of architecturally outstanding historic buildings. This affects the visual character of these structures to their detriment. The roof is a most important part of the architectural composition. In addition, the removal of a substantial part of the sky affects the environmental quality of this area adversely.

I am a member of the Urban Design Committee of the Boston Society of architects. We have tried to review this project several months ago, but, unfortunately, we have been rebuffed by the Boston Redevelopment Authority.

Note: * underlining by the author of these comments.

I had the opportunity to see the model of the proposed complex and I was very favorably impressed by the thoughtful efforts of the architects to integrate this group of buildings into the delicate environment through the choice of architectural "Gliederung" and fenestration as well as the choice of materials. They are practicing appropriately sensitive contextualism; - however, these skillful efforts cannot hide the enormous bulk of the office building.

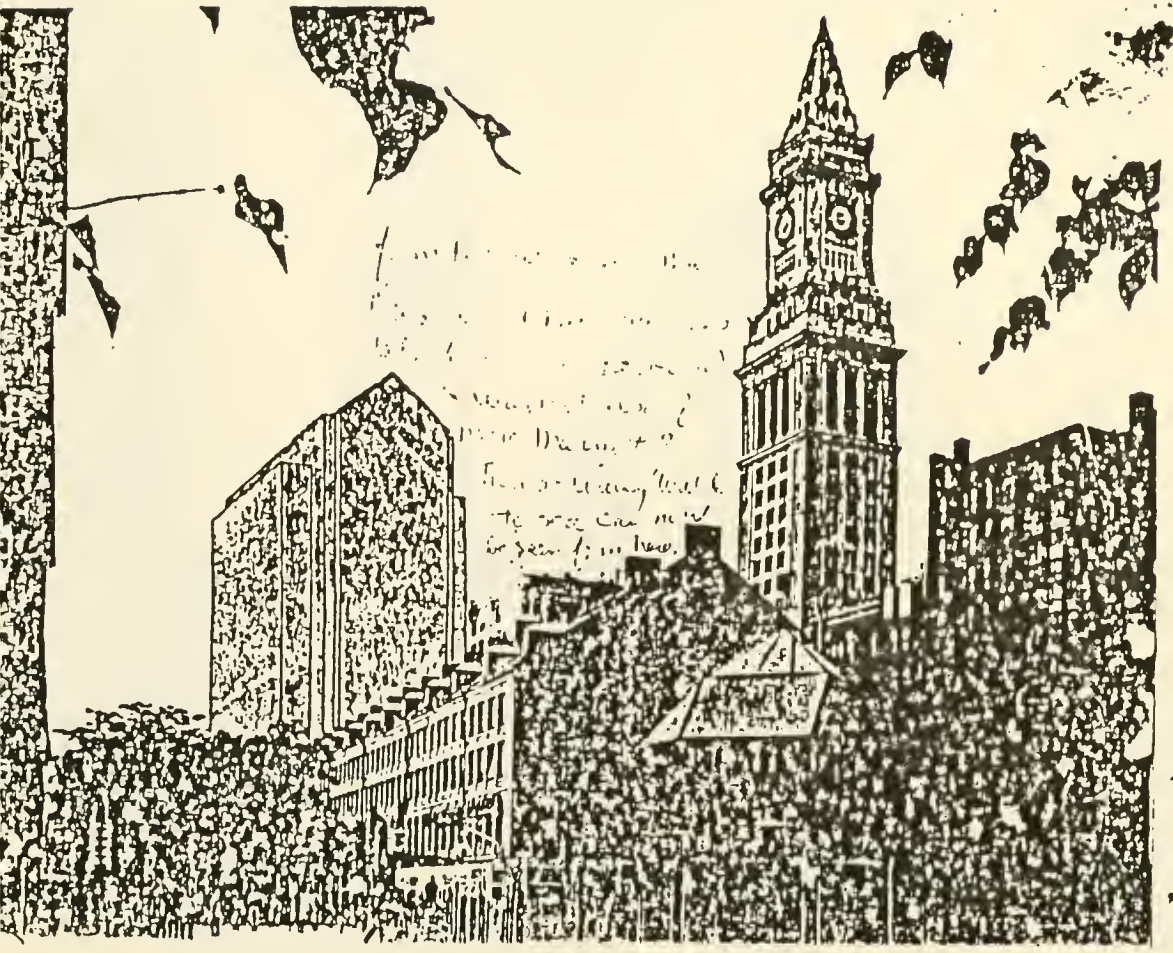
I would suggest to reduce the volume of the office building considerably and to limit it to the height of the granite buildings on State Street to the south of Parcel D-10 in order to comply with guideline No 1. of the B.R.A. in order to "relate to the 18th century State Street Block in terms of siting, form and character of the neighboring commercial buildings. The visual impact of the office mass should be minimized." These is one of the guidelines of the Boston Redevelopment Authority, which I merely suggest to follow.

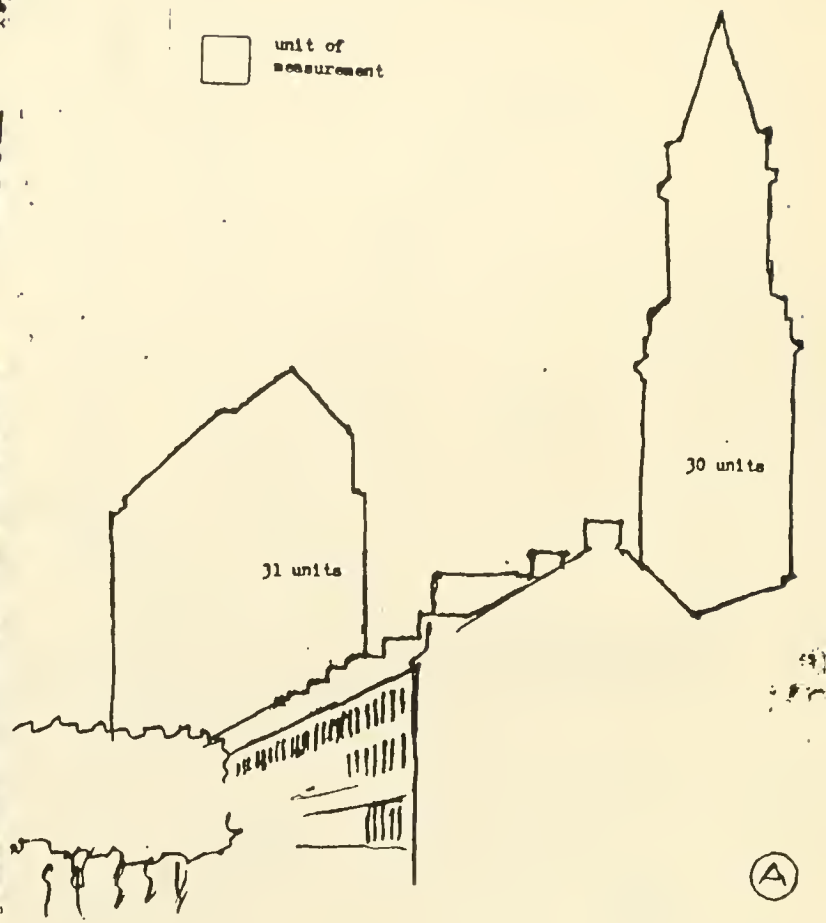
This would of course entail the re-negotiation of the financial dimensions of this project, in particular the ground rent due to the City of Boston. In my opinion, this would be a very small sacrifice for enormous long-term benefits, visually and economically.

Respectfully submitted

Wilhelm V. von Moltke

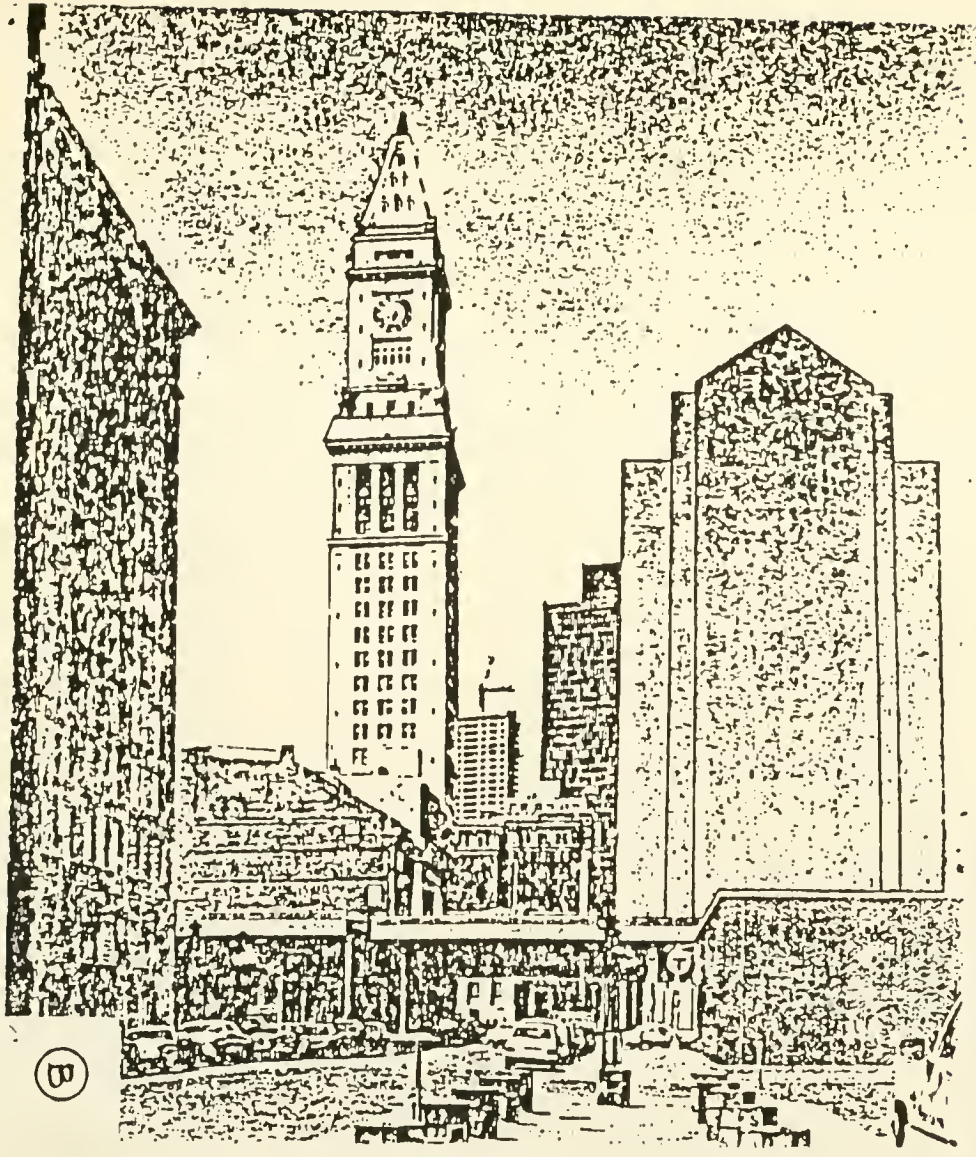
Wilhelm Viggo von Moltke, FAIA, AICP,
Professor of Urban Design, Emeritus.

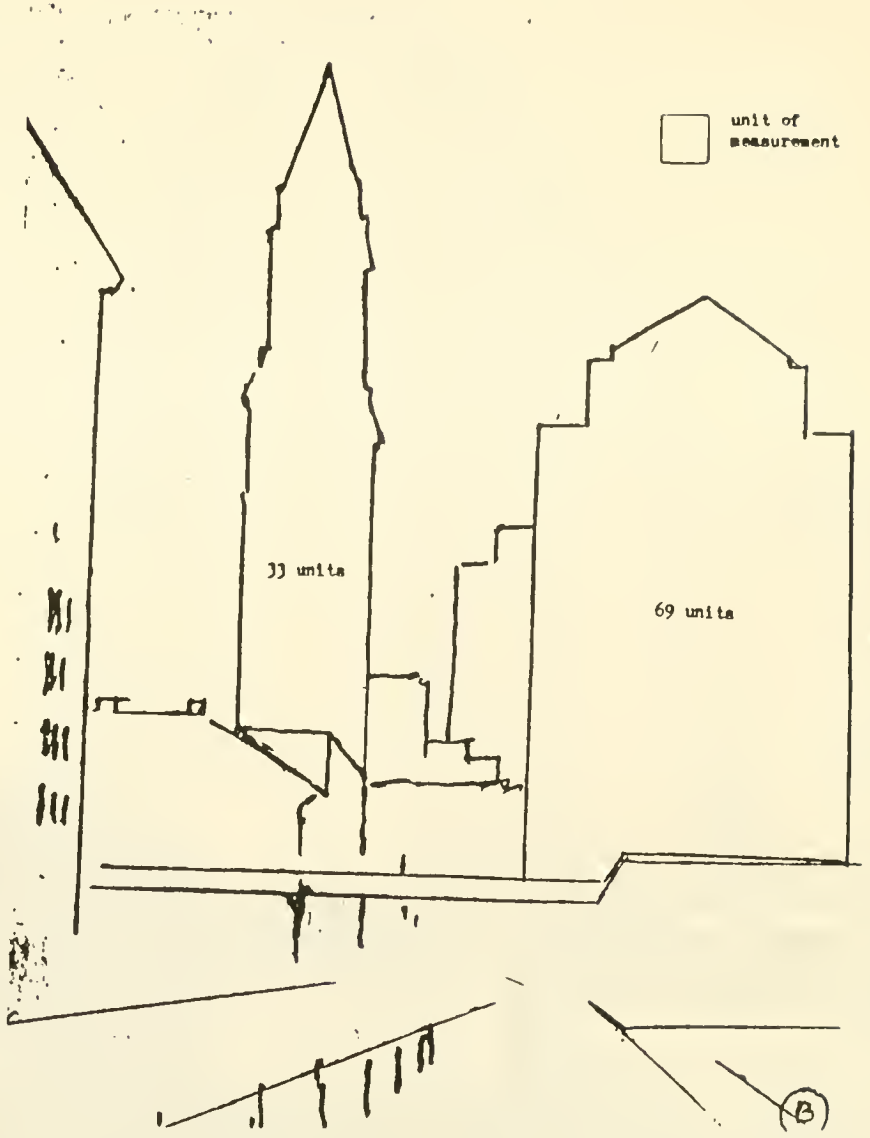




(A)

(B)

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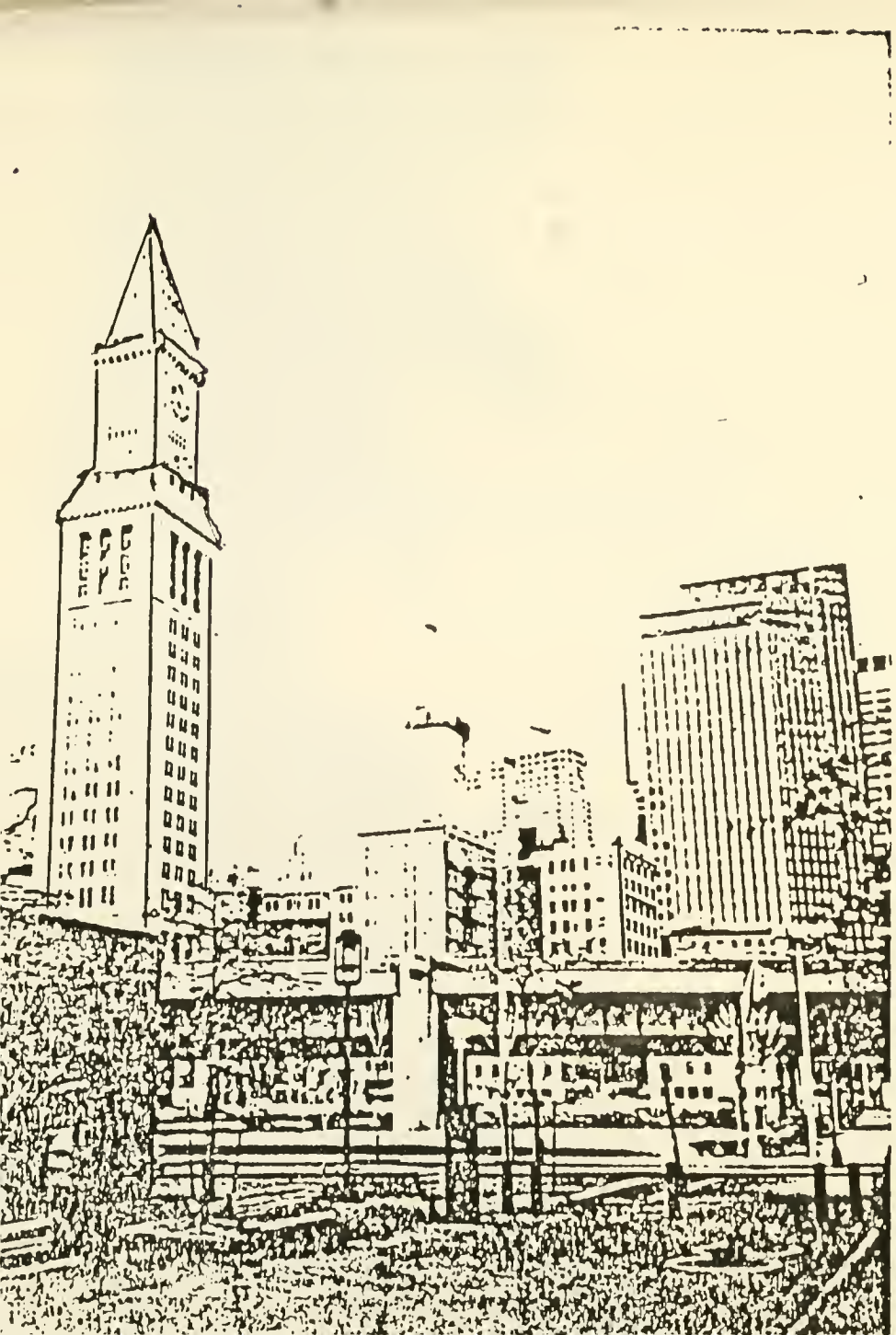
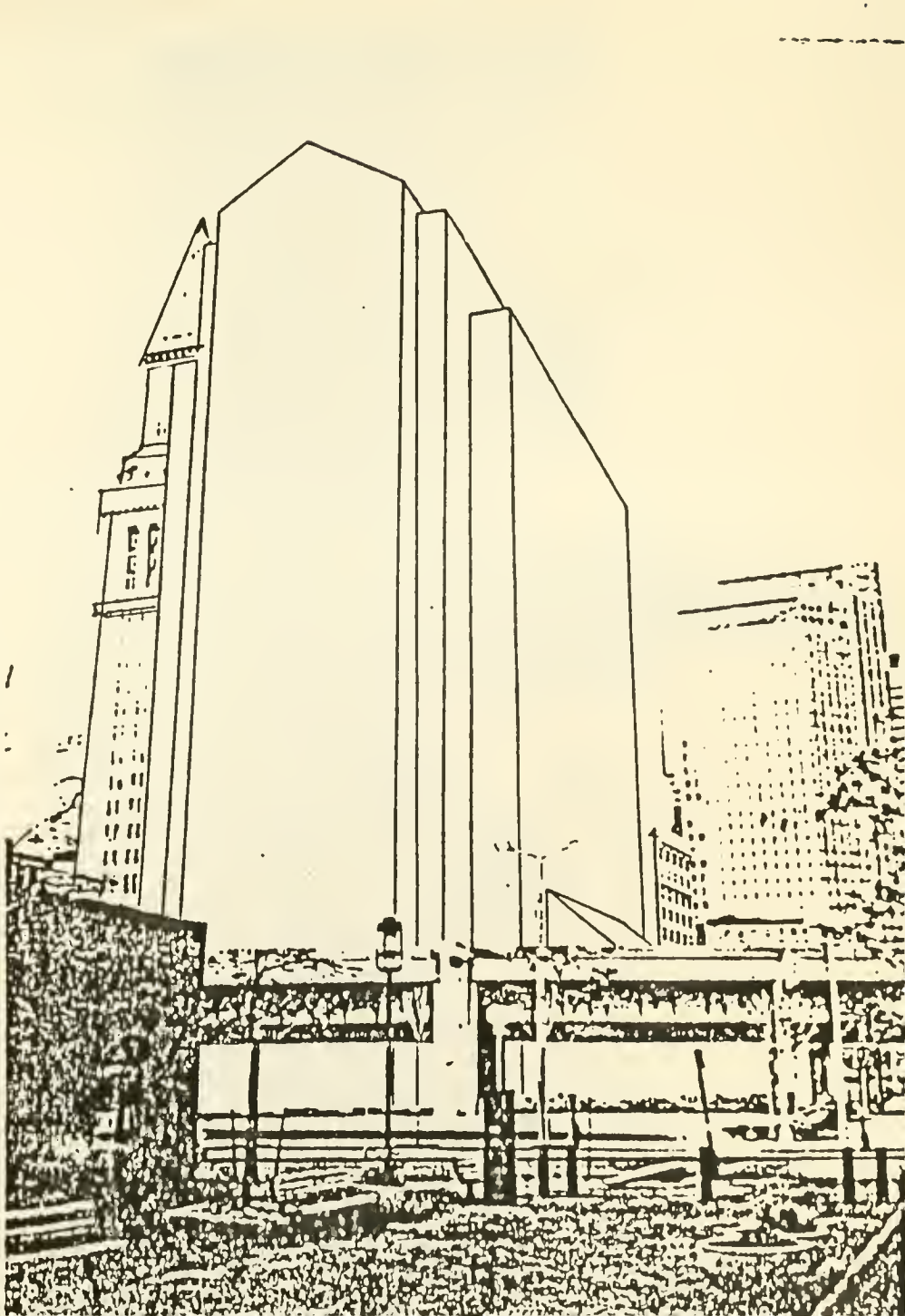
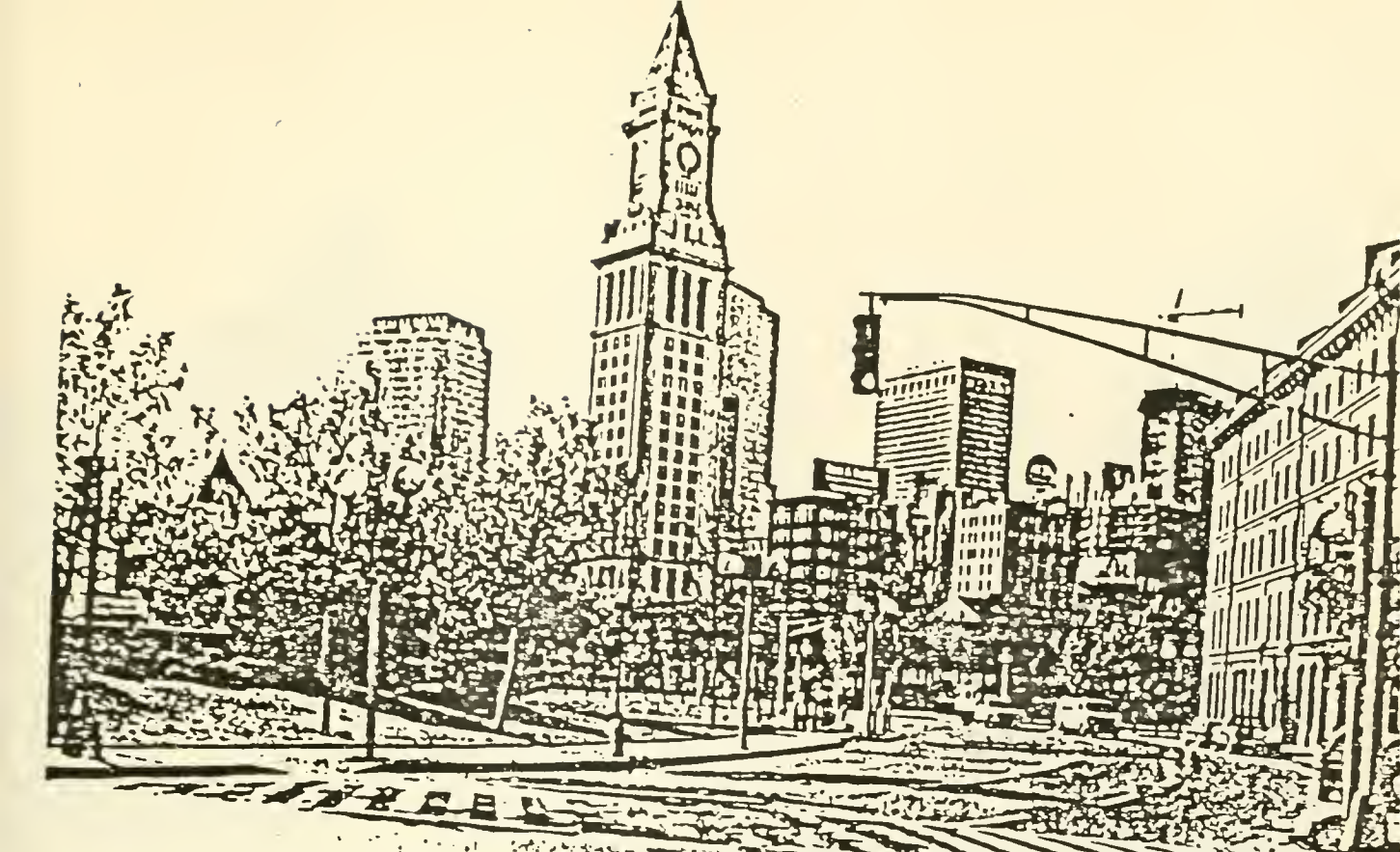
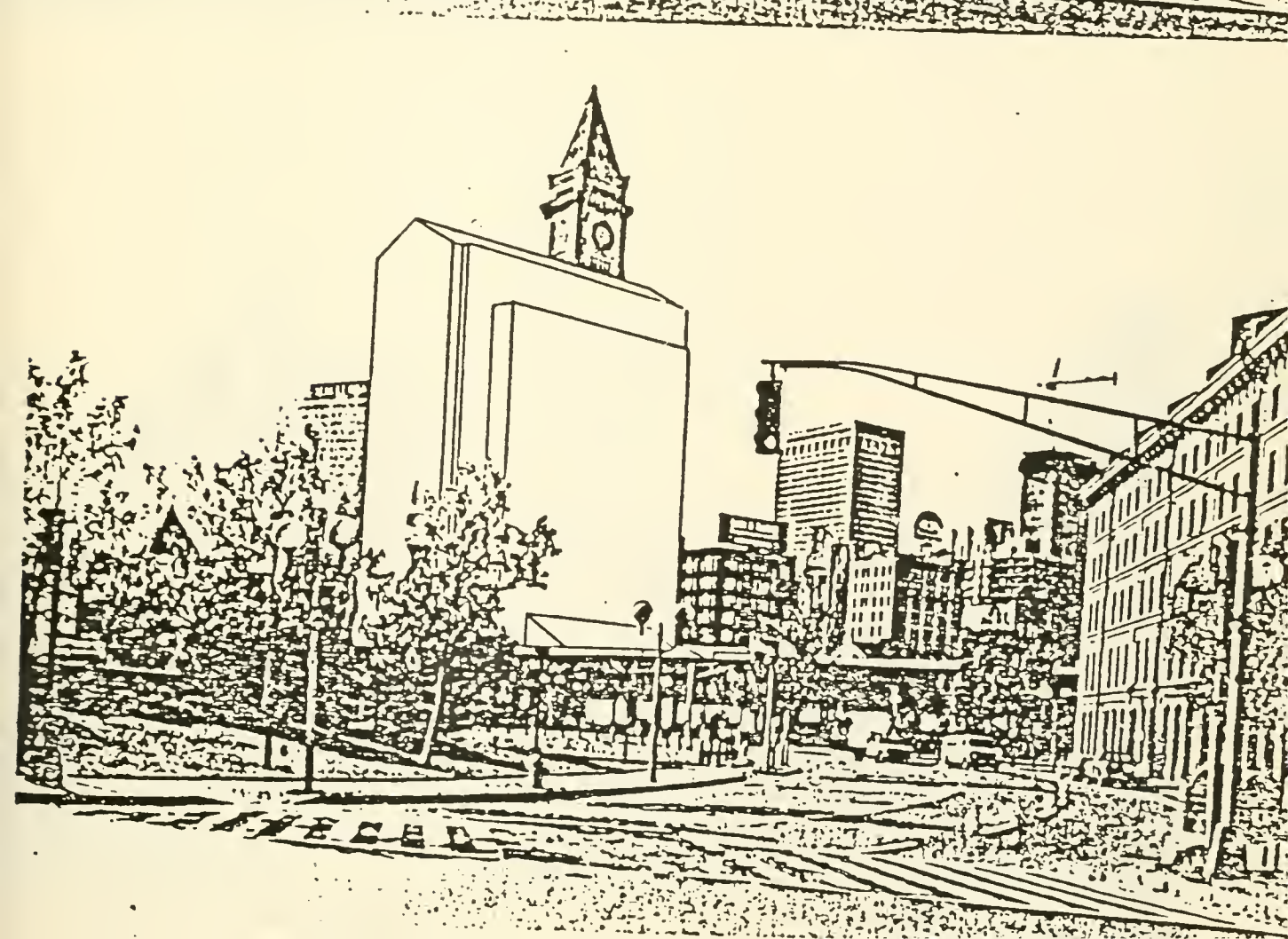
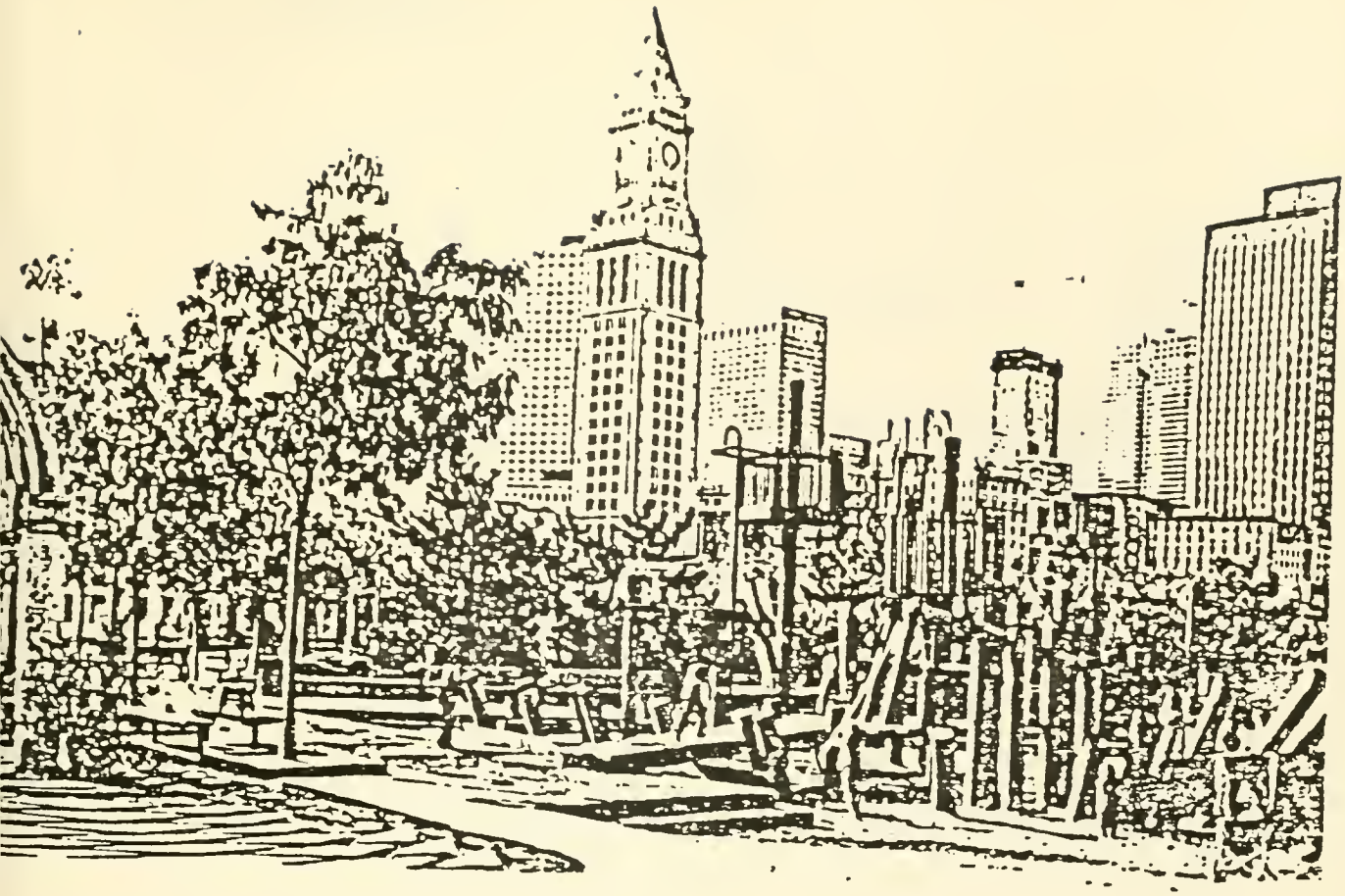
69 units

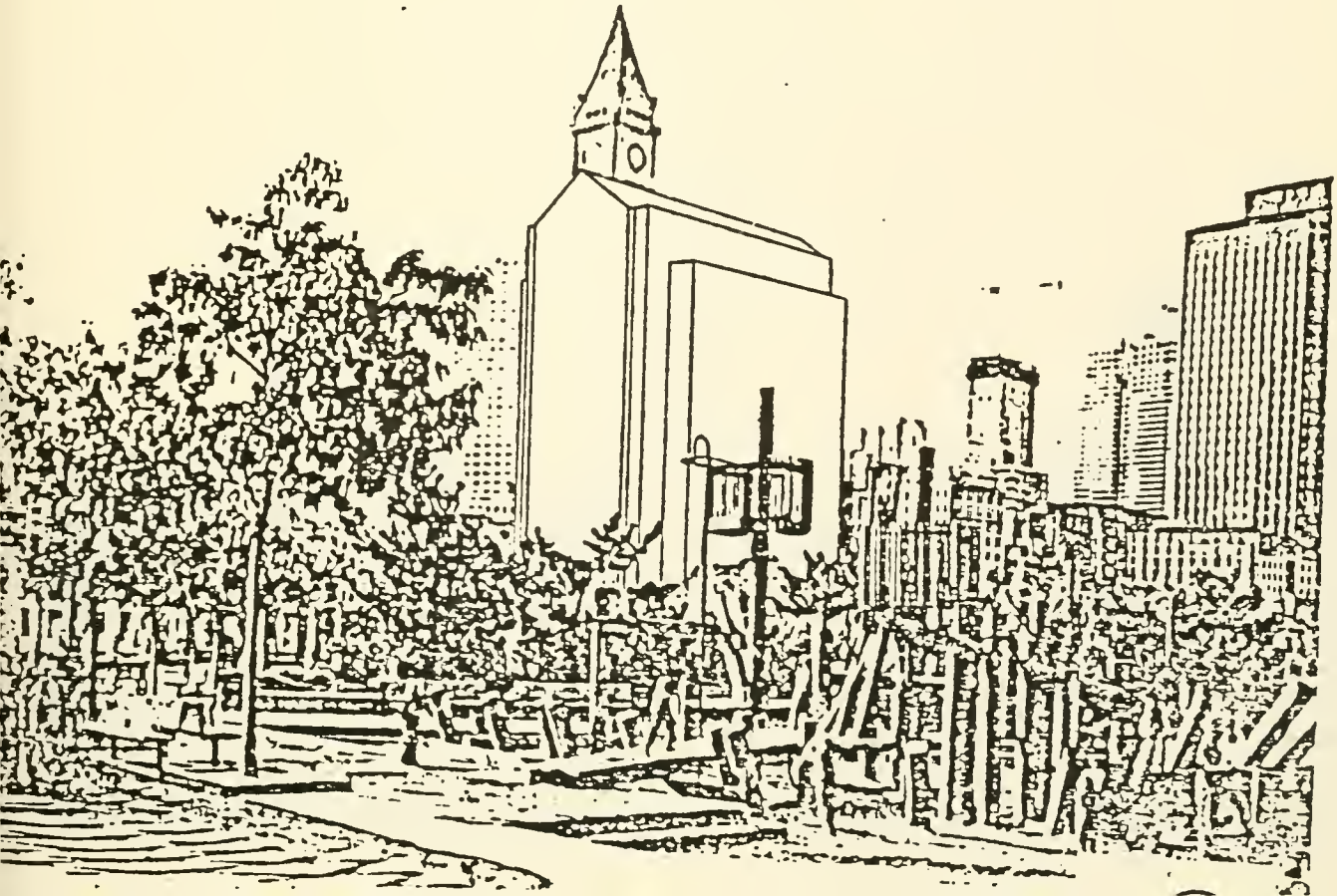




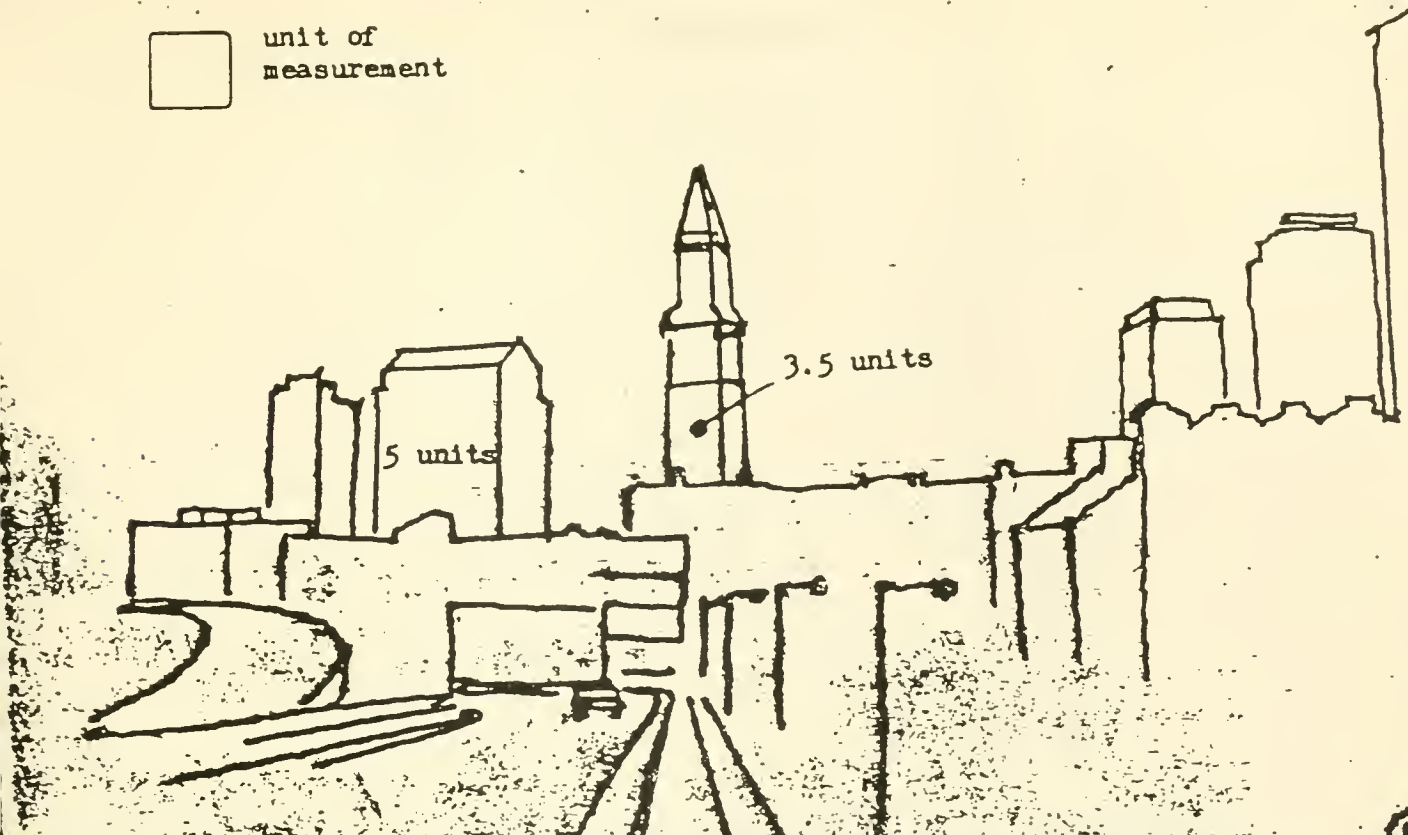




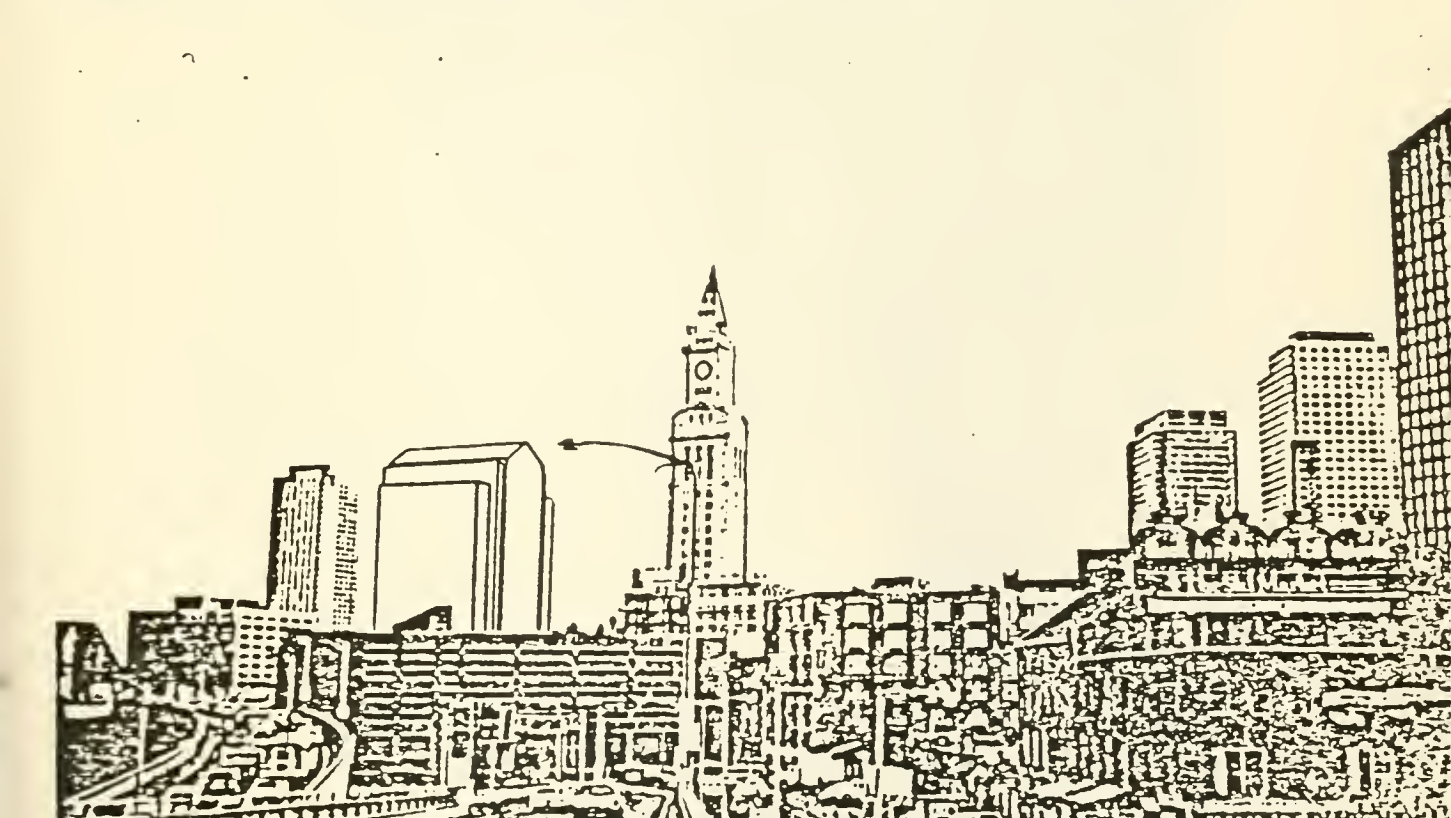




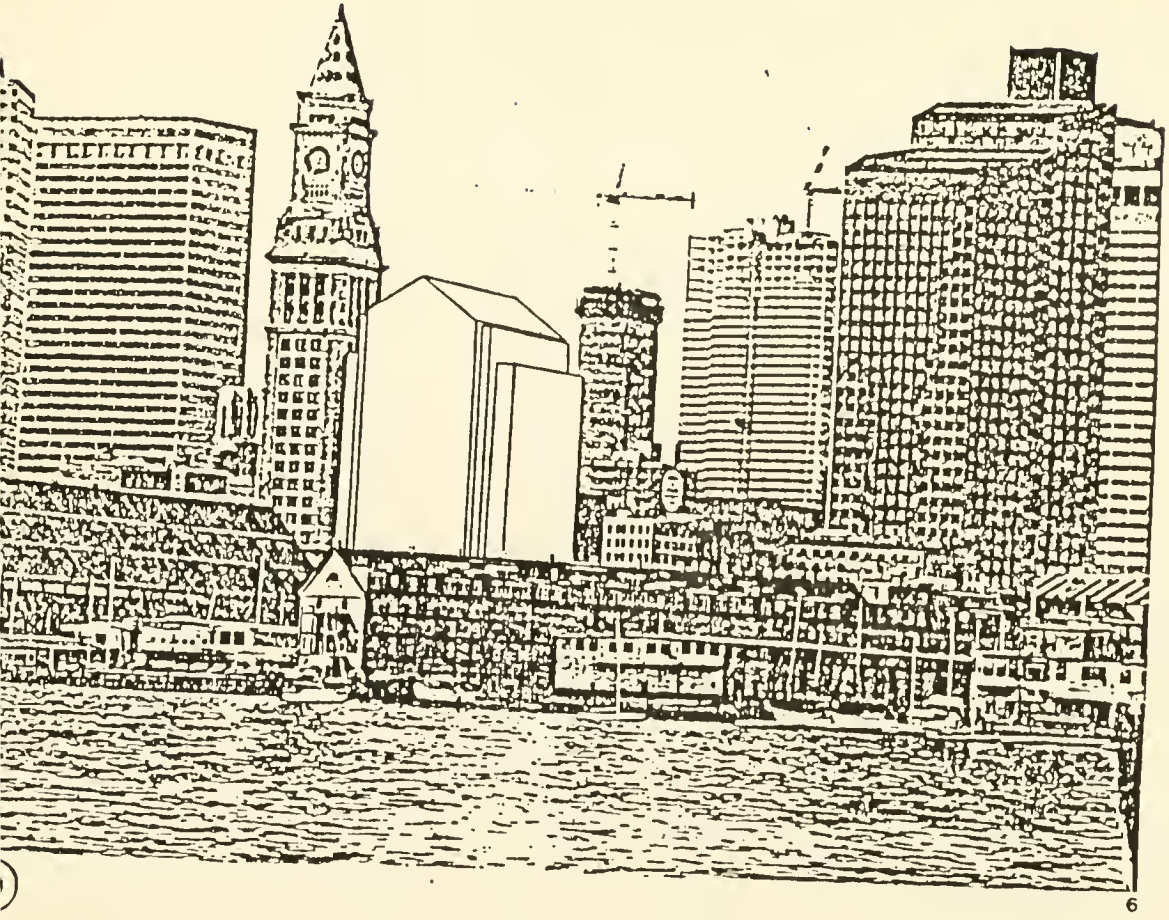
unit of
measurement

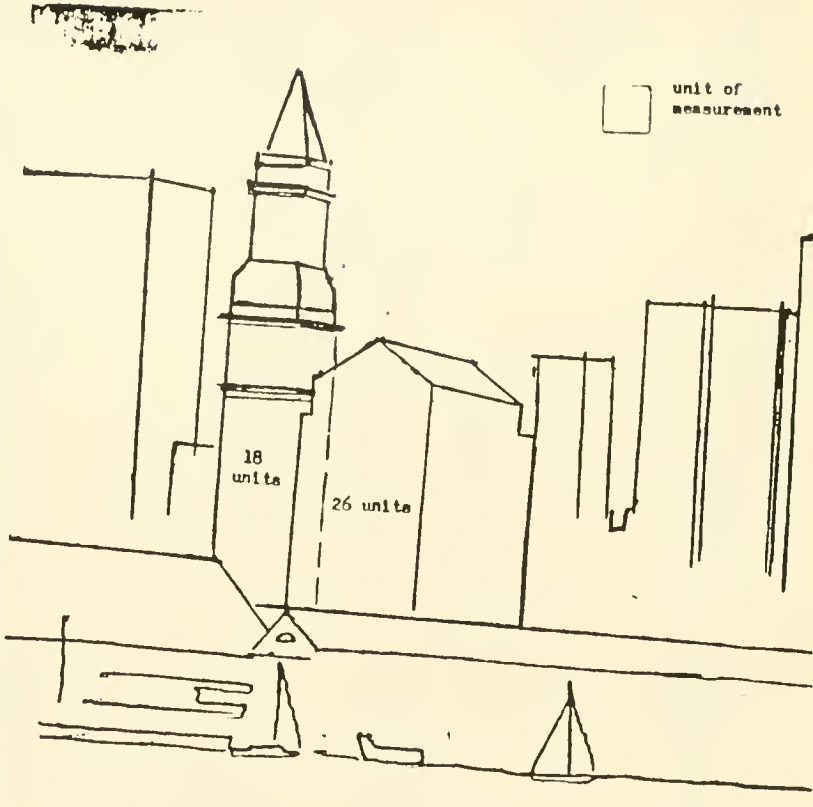


F



G




unit of measurement
18 units
26 units

MARKETPLACE CENTER ASSOCIATES

189 STATE STREET
BOSTON, MA. 02109

617-742-2280

January 25, 1983

RECEIVED
FEB 1 1983
OFFICE OF THE SECRETARY OF
ENVIRONMENTAL AFFAIRS

Mr. Samuel G. Mygatt, Executive Director
Environmental Impact Review
The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02202

Re: Marketplace Center

Dear Mr. Mygatt:

Thank you for your letter of January 14, 1983 commenting on our December 30, 1982 transmittal letter.

Phrasing on our part may have caused you some concern and your clarification concerning height is appreciated. In the last analysis, however, we take it that there shall be no requirement to evaluate alternative building heights. If there are some published standards or guidelines available concerning this issue of height, we would appreciate reference to them.

Concerning the Central Artery as a viewing platform for the Quincy Market, there are many reasons dictating against its preservation. First, there is the hope that some day the Artery will be depressed; secondly, while it exists it creates in the mind of many, including the writer and the B.R.A. a visual blight as one walks in an easterly direction through the Faneuil Hall, Quincy Market area; thirdly, the B.R.A. as planning agency and landlord required that the Artery be visually masked. As far as eliminating the sole remaining aerial view, visitors to the new building will be able to look back from the second floor of the low rise. As one drives along the Artery, or is stopped in traffic, the vista is really only of the fourth and fifth floors of the Market buildings.

In any event, thank you for your letter, and we anxiously wait your review of the Draft E.I.R. Supplement.

Very truly yours,

James F. Sullivan

slh

The Boston Preservation Alliance

An Association of Preservation Organizations

P.O. Box 1165, Boston, Massachusetts 02103 Phone: 242-5656

February 9, 1983

RECEIVED

OFFICE OF THE SECRETARY OF ENVIRONMENTAL AFFAIRS

Mr. Samuel Mygatt
Executive Office of Environmental
Affairs
100 Cambridge St.
Boston, MA 02202

RE: MEPA Unit-EOEA No. 4389

Dear Mr. Mygatt:

The Boston Preservation Alliance welcomes the opportunity to present its point of view on the Marketplace Center Project (MEPA Unit-EOEA No. 4389). The valuable historic, economic and environmental contribution that this area makes to the City has been well documented and needs no repetition here. We wish to register our comments on what we feel the adverse effects of this project will be.

First, we are concerned about the height and massing of the proposed tower. The impact of such a tower on the immediate surroundings will be great. Decreased light, increased shadowing and street level wind are among the probable negative effects which will be produced by a tower of this size and height.

Further, the 280 foot height of the proposed tower is totally unacceptable to us. As sited, the ultimate effect of the tower will be to greatly obscure the view of the nearby Customs House Tower. The historic significance of the Customs House Tower, a landmark and a beacon, cannot be disputed. The visual impact of the proposed tower on this notable structure must be considered.

The Boston Preservation Alliance objects to the failure of the Boston Redevelopment Authority to adequately inform the public of the design selection and progress of the Marketplace Center Project. Input from the public has not been solicited. The public cannot respond intelligently withouth the true cooperation of the City Agency involved. The BRA has failed even to follow the spirit of the design guidelines they proposed for the site. We, therefore, urge MEPA to issue a statement of adverse environmental impact on the Marketplace Center project (no. 4389).

Sincerely,

Susan Park
Chairman

Rupert A. M. Davis
Executive Director

THE PAUL REVERE HOUSE
THE MOSES PIERCE/HICHBORN HOUSE
The Paul Revere Memorial Association
19 North Square
Boston, MA 02113

February [illegible] 1983

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FEB 7 1983
OFFICE OF THE SECRETARY
ENVIRONMENTAL AFFAIRS

Mr. Samuel Mygatt
Executive Director, Environmental Review Division
Massachusetts Environmental Protection Agency
100 Cambridge Street
Boston, Massachusetts 02202

Dear Mr. Mygatt,

I'd like to express my deep concern over the proposed "marketplace center" building (Parcel D-10) to go up in downtown Boston. As a new resident of Boston and a dedicated preservationist, I am shocked at the continuing efforts to obliterate the historic fabric and open space that makes this city so unique - not only for the people who live and work here, but for the millions who visit each year. The proposed building would not only ruin the vista provided by the Custom House tower and the Faneuil Hall steeple, but I believe it would create a barrier to the free flow of pedestrian traffic in the market area. Although the plan calls for access to the waterfront, I think it would discourage foot traffic towards the artery and the waterfront park, because it would block from view the very thing that is supposed to attract people to walk there in the first place. Related to this is my gut feeling that tourists may be confused and disoriented as they try to make their way along the Freedom Trail, or follow their eyes toward the water. The proposed building is out of character, in both size, shape and feeling, with the other buildings in the marketplace area, and would thereby create an obstruction and visual as well as physical barrier. Pockets of foot traffic would result, instead of the lovely free flow we have now.

Visitors and residents leaving the North End to return over to the marketplace area would be greeted by more harsh concrete, instead of by the varied and visually attractive skyline that now exists. How will they know where they are going?

I strongly believe the market area has enough people and cars, and does not need more density. It could turn into a nightmare similar to that at Penn's Landing in Philadelphia - so many shops, offices and restaurants exist there that no one can get near the place. Why not preserve for Boston a part of its beauty and convenience, and dismiss the plans for another eyesore and neighborhood destroyer.

Sincerely yours,

Patricia Sullivan

Patricia Sullivan
Director

[illegible]

POSITIONS, INC.

RECEIVED
FEB 9 1983
OFFICE OF THE SECRETARY OF
ENVIRONMENTAL AFFAIRS

February 8, 1983

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

Attention: Samuel G. Mygatt, Executive Director, MEPA Unit - EOEA No. 4389

Dear Sir:

I am writing in response to your letter requesting comments on the proposed "Marketplace Center", EOEA No. 4389. My comments are from the viewpoint of a property owner and tenant at One McKinley Square (Custom House end of granite block). My concern is that the scope of this project will create a negative impact on the buildings adjacent to the proposed center.

My objections are as follows:

1. The height of the revised plan is 280 feet.....60 feet above the design guidelines.

With the exception of the Custom House Tower, the highest building in the neighborhood surrounding the proposed plan is 10 stories. I believe the project started at 15 stories and now has climbed to 21. This will have a very negative impact to all surrounding buildings and take away the historical character of the neighborhood.

2. The density of this project with 554,000 square feet of rentable space will create a significant increase in traffic flow and will create major parking problems.

Using a very conservative estimate, it appears that over 3,000 people will be working in Marketplace Center. At a minimum, a building this size would require 500 parking spaces to accomodate the needs of the people working in the building (1 parking space per 1,000 square feet of space). The proposed plan only calls for 150 parking spaces. This would put a tremendous burden on the already overcrowded existing conditions. Added to this will be a tremendous influx of transient parking for people visiting Marketplace Center. The problem is further compounded by the fact that the project intself will take away over 200

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ONE McKINLEY SQUARE • BOSTON, MASSACHUSETTS 02109 • (617) 367-9212

spaces currently on the land of the proposed project. This parking lot is always full during business hours and normally has 20+ cars waiting.

3. The Custom House, a Boston landmark, will be overshadowed by Marketplace Center.

Visability of this famous Boston landmark will be, for all practical purposes, cut off.

Thank you for the opportunity to make these comments.

Regards,

William F. Markey

William F. Markey, Jr.

WFM/maa

SIERRA CLUB · New England Chapter
3 JOY STREET, ROOM 12, BOSTON, MASSACHUSETTS, 02108 • 617-227-5339

Febuary 5, 1983

RECEIVED
FEB 8
OFFICE OF THE SECRETARY
OF ENVIRONMENTAL AFFAIRS

James S. Hoyte, Secretary
Executive Office of Environmental Affairs
Commonwealth of Massachusetts
100 Cambridge Street
Boston, Mass. 02202

Attn: MEPA Unit

Re: EOEA No. 4389 Marketplace Center, Parcel D-10, Boston

Dear Sir:

The Greater Boston Group offers the following comments on the Parcel D-10 development proposed by the Marketplace Center Associates. Not having at hand the draft EIR, we are necessarily non-specific.

DESIGN The site is the historic commercial heart of seventeenth century Boston. The Quincy Market building, built in the next century, is a monument to the young American Republic, pure and simple in its Greek Revival design. Situated at the water's edge, the magnificent geometry of its pedimented temple end was intended to be seen from far out in the Harbor.

The ground plan here proposed for Parcel D-10 is baroque in feeling, unsympathetic to the simple federal architecture, and dwarfs the grandeur of Alexander Parrish's Market buildings and surrounding pedestrian areas. Neither is it scaled to the State St. Block, to Chatham Row or to the Marriott Hotel on Long Wharf. South Market St. is arbitrarily truncated visually with a semi-circular design. The Market open space does not end here; it continues to the Park and water. With the proposed design, the view is obscured from both directions. The historic interaction between the Market and the Harbor is vital and is not respected by this design. An appropriate space plan would retain and create interesting views, inviting people down to our gateway to the world - not blocking them.

Ten years ago the Sierra Club proposed a plan called Boston Great Cove of which the present Waterfront Park and the Marriott Hotel are partial manifestations. As shown on the Sierra Club proposal, Parcel D-10 should be designed as a linear East/West form on State St. - not a tower. It should continue the directionality and the scale of the Marriott Hotel. It should respond in a similar fashion to the cornice height of the State St. Block, and then step down from that height on the South to a pedestrian scale on the North, at the Walkway to the Sea which should be wider than South Market St and jogged over - the entranceway to the Quincy Market east pediment. The Marriott was designed to allow light to the north and to avoid shadow. After 10 years of citizen and city planning, the consensus was that the height of the Marriott Hotel is the maximum compatible with our National Historic Register buildings.

The design proposed here by the Marketplace Center

Associates, with its 280 foot tower, is too high, and too inappropriate in feeling for this extremely significant location.

VEHICULAR TRAFFIC Traffic studies done in 1980 pre-date the opening of the Dock Square garage and are no longer valid. Any studies have to include delivery and service vehicles including those for solid waste. Our goal in Mass. is to improve the quality of the air we breathe daily; it is not sufficient to diminish its deterioration.

PEDESTRIAN TRAFFIC The Waterfront Park is among the most heavily used in the city; the North End is among the most densely populated; the New England Aquarium attracts one million visitors a year; the Quincy Market area an even larger share; thousands of people use Long Wharf in the warmer months to board excursion boats and to access Boston Harbor Islands State Park; commuter boat passengers walk daily to the financial and downtown business districts; the weekend pushcart market on Blackstone St. is an important food resource for families from all over Greater Boston. What pedestrian studies have been done? New Atlantic Ave. as well as the surface artery is dangerous to cross.

PARKING SPACES There is some discrepancy between the proposed 240 and the current figure of 125 parking spaces to be built. With 3 public garages within minutes' walk - Dock square, Harbor Towers, Government Center - there has to be very compelling reasons for any parking provisions. The parking spaces now in use on the D-10 open lot are not available for re-assignment under Parking Freeze regulations, having already been included in the number licensed to the Dock Square Garage. It is therefore misleading to claim an improvement will be affected by a reduction of spaces after D-10 is complete.

ARCHAEOLOGY It is tremendously exciting to learn that the preliminary digs uncovered the original 18th century construction of Long Wharf and pre-1760 artifacts. How many sites like this do we have in the U.S.? What provisions are being made to preserve these national treasures? Surely we do not intend to sacrifice them?

SEWAGE There is a very strong possibility that the sanitary sewage storage tank that will be required is not an effective means of preventing raw sewage from entering Boston Harbor. The Boston Sewer System is antiquated and inadequate. Studies must be done to determine if the storage tank built to hold the Long Wharf Marriott waste water until low tide when it is pumped into the MDC system does not in fact run directly out into the Harbor at Central Wharf, as if there were no storage tank. Further development in downtown Boston must stop until it is clearly shown that there is capacity to treat the sewage added to the system by the new buildings. It is a violation of federal law to dump untreated sewage in our waterways, whether directly or via a storage tank and overtaxed municipal sewer pipes.

SIERRA CLUB · New England Chapter
3 JOY STREET, ROOM 12, BOSTON, MASSACHUSETTS, 02108 • 617-227-5339

CENTRAL ARTERY For the past dozen years politicians, transportation planners and contractors have been discussing the depression of the Central Artery, which badly needs repair. The present administration of Governor Dukakis and Secretary of Transportation Salvucci are on record in favor of this project, as is the Sierra Club of Greater Boston. The Central Artery is the single most disrupting feature of the downtown Boston Waterfront. Provided the land planning of the surface is done wisely and sensitively, Boston could once again be united with its Harbor.

It is short-sighted for the developer of Parcel D-10 not to include provisions for changes to the Central Artery. In the Great Cove Proposal we recommend the D-10 parcel be re-defined to include air rights over the Artery. With the Central Artery depressed, the solid granite wall facing the Harbor in the present design is neither in the developer's nor the public's interest. There is no flexibility in the Marketplace Center proposal for future depression of the Central Artery.

We trust these comments will be of some use to you in evaluating the Marketplace Center Associates Parcel D-10 EIR.

Very truly yours,

Louise Lewis

Louise Lewis
Greater Boston Group

BSA

A. Anthony Tappé, FAIA
President

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FEB 1983
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ENVIRONMENTAL AFFAIRS

7 February 1983

Mr. Sam Mygatt
Executive Office of Environmental Affairs
MEPA Unit
100 Cambridge Street
Boston, Massachusetts 02202

Dear Mr. Mygatt:

In behalf of the Boston Society of Architects, I am pleased to submit our comments and review of the draft Environmental Impact Report for the Marketplace Center project on Parcel D-10.

As professional designers and planners, we believe that the development of Parcel D-10 is of critical importance visually, urbanistically, and economically to the life and success of this lively and revitalized part of our City.

This area is one of the most sensitive areas left in Boston's center city. Cherished by office workers, shoppers, tourists and residents of the Greater Boston Area seeking relaxation, a pleasant meal or just a change of environment, it also contains one of the finest, if not the outstanding example of a complete architectural urban ensemble (environment) from the beginning of the 19th century in all of Boston.

It is this present architectural ambiance which in part makes this area the outstanding attraction and economic success that it is. However, the area is extremely fragile and may be adversely affected by any drastic change due to disharmonious development which is not compatible with or complimentary to the human scale of this presently successful environment. Discordant development could be economically counter-productive in the long run (even though fiscally benefical in the short run) since the economic value of the area's visual quality is incalculable.

It is therefore with the critical importance of this site in mind, that we believe the formulation of the BRA's initial Design Guidelines for the site to have been extremely important in establishing the scale and quality of the proposed project. As such, they were deserving of full public discussion and input. To our knowledge, they were drafted without input from professional organizations such as ourselves.

The Boston Society of Architects
320 Newbury Street
Boston, Massachusetts 02115
Telephone 617 267-5175
A Chapter of
the American Institute
of Architects

The BSA takes exception to some of the BRA's Guidelines to which the developer was to adhere. The most critical guideline is that which allows a tower of 220 feet in height. Though many of the other specific Guidelines express concerns which we fully support, we believe it necessary to point out a major internal inconsistency amongst them: namely, that a 220' tower on this site inherently cannot "complement, without overpowering, the historic Faneuil Hall Markets and the Granite State Street Block south of the site."

Nevertheless, the BRA Guidelines are the ones to which the developer and his design team were asked to adhere. Therefore, the remainder of our specific comments are directed to the developer's response to certain of those Guidelines.

The most critical Guidelines for urban design and planning issues are the following:

1. "Maximum height shall not exceed 220 feet above the State Street sidewalk."

2. "The office element at the south end of the site must strongly consider and relate to the 18th Century State Street Block in terms of siting, form, and the character of neighboring commercial buildings. The visual impact of the office mass should be minimized."

3. "The building must complement, without overpowering, the historic Faneuil Hall Markets and the Granite State Street Block south of the site."

4. "The massing of D-10 should enhance the visual dominance of the Custom House Tower."

5. "Enhancing views towards the Custom House TOWER AND square is considered an important objective."

6. "A 'Walk to the Sea' must be maintained as predominantly open to the sky, and must be aligned substantially to the width of South Market Street. It should not become a passageway <u>through</u> a building mass. However, if an above-grade linkage were desired between the two portions of the parcel, it would be considered as a visual mask of the Central Artery."

In regard to the first guideline, it is clear that the height limit has been exceeded by more than fifty (50) feet. It is our strong conviction that no portion of Marketplace Center

should in fact exceed the height of the neighboring Granite State Street Block.

In regard to Guidelines 2 through 5, we believe that the proposed 276' high tower portion of Marketplace Center does not complement but in fact "overpowers" both historic Faneuil Hall Markets and the Granite State Street Block. Additionally, this tower clearly does not enhance the visual dominance of the Custom House Tower but rather competes with it and diminishes its importance as a longstanding historic landmark and visual reference point for this portion of the City and from the waterfront. The importance of the Custom House Tower's role as a visual landmark is not dissimilar to that of the Terminal Building on San Francisco's waterfront at the foot of Market Street.

As regards to Guideline 6, the public passage provided through the complex on the Walk-to-the-Sea is in danger of being perceived as a private passageway through the building if not handled properly. We are concerned that should be passageway prove to be too windy, a tempting solution to the developer may be to enclose the ends of the passageway with glass walls. The resulting solution may become similar to the so-called "public" passageway through the Marriott Long Wharf Hotel. This potential result must be avoided at all costs if the passageway is to truly serve as an urban amenity which the public will be able to use with pleasure as part of the Walk-to-the-Sea.

There are a number of other broader issues, not specific to Marketplace Center alone, which need to be addressed by the BRA. Especially to be questioned is the wisdom of encouraging further high-rise development in those parts of downtown Boston that are fragile and unique in character. It is not clear that the revenues and benefits of these projects outweigh the fiscal costs to the City for services, transportation and traffic congestion. This is a topic, however, for a much larger investigation

In regard to the Marketplace Center development itself, we hope that an open public dialogue about the project's merits can be initiated. The BSA looks forward to participating in that dialogue.

Sincerely,

A. Anthony Tappé FF

A. Anthony Tappe, FAIA

FIRST-177 TRUST
50 Congress Street, Suite 630
Boston, Massachusetts 02109

RECEIVED
FEB 8 1983
OFFICE OF THE SECRETARY OF
ENVIRONMENTAL AFFAIRS

February 8, 1983

By Hand

Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

Attention: Samuel G. Mygatt
Executive Director of Environmental Impact Review

Re: Market Place Center

Dear Mr. Mygatt:

As an abutter of the above-referenced property, located at 177 State Street, I have deep concerns about the proposed project.

To our knowledge, few abutters were given input or information about the BRA design guidelines which called for a building of excessive bulk and mass. Furthermore, its design guidelines have been subsequently ignored in the formulation of the final plans to create an even larger building with potential deleterious impact on our neighborhood.

The increase in height limit, aside from the urban design issues, will create a tremendous load on parking and city services. The design guidelines are explicit in calling for a proposal which respects the granite State Street block and ennances the visual dominance of the Customs House Tower. The proposal is of such mass that it blots out the Customs House Tower and overpowers all abutting property.

I feel that it would be in the best interest of the neighborhood at least to adhere to the original design guidelines, and better yet to scale down the project to an appropriate urban design standard.

Very truly yours,

Sara L. Cupka, Trustee

Sara L. Cupka, Trustee

mapc
METROPOLITAN AREA
PLANNING COUNCIL
110 TREMONT ST.
BOSTON, MA 02108
Tel. (617) 451-2770

RECEIVED

February 9, 1983

The Honorable James S. Hoyte, Secretary
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, Massachusetts 02202

Attention: MEPA Unit

RE: Review of Supplemental DEIR, Marketplace Center, Boston
(MAPC #EIR-83-8, Received January 17, 1983) EOEA #4389

Dear Secretary Hoyte:

In accordance with the provisions of Chapter 30, Section 62 of the Massachusetts General Laws, the Metropolitan Area Planning Council has reviewed the above-referenced Supplemental Draft Environmental Impact Report.

The Council feels that this Supplemental Draft does not completely address the comments submitted on the original DEIR concerning specific impacts associated with the project, and it raises additional concerns in other areas. In the sections on Visual Analysis and Shadow Impacts, complete information have not been provided, impacts have not been clearly summarized, and alternatives or mitigating measures have not been presented.

Concerning the Visual Analysis, the Council has several areas of concern. First, the basic features of the proposed building are not presented. It is MAPC's understanding that a meaningful wind analysis cannot be performed without a model depicting the final design, including representations of door and window size, shape, and placement. Considering the length and complexity of the wind analyses presented in the Draft, some graphic representation of what the building will look like must be available and should be included for public review. Second, the Council is disappointed by the proponent's claim that the visual impacts of the building are outweighed by "the positive advantages which come from shielding the entire Fanueil Hall Market environment from the noise and visual assaults of the Central Artery...." Shielding the Market area may partially justify the placement of a building on the proposed site, but the inference that the proposed building's 21 stories are necessary to accomplish this is unacceptable. The Council believes that the same positive effects could be achieved through reduced development, without sacrificing views of several regionally important sites. Finally, no views from the Central Artery of the Customs House Tower, Quincy Market, or Fanueil Hall are presented. The views that are presented do not illustrate the effect the proposed building will have on passing motorists' views of these sites.

The Council also feels that the Shadow Impacts analysis understates the effect the proposed building will have on surrounding areas. According to the graphics presented, the newly created shadows, combined with the effect of existing shadows, will result in a shaded pedestrian area on Commercial Street, during most of the day from September through March. Similarly, these combined shadows appear to render Waterfront Park completely shaded during winter afternoons. The effect of blocking the remaining sunlight at both of these public areas, during months when sunlight may be the factor that encourages their use, is a significant impact. Again the Council suggests that alternatives in size and scale of the proposed building be considered.

In general, MAPC continues to be disappointed with the quality of the information presented by the proponent. Both DEIRs have been difficult to review, contain poor summarizations of the material, and offer no alternatives for development. However, the Council looks forward to reviewing additional information regarding the project.

Sincerely,

Jack B. Beard for

Jonathan G. Truslow
Executive Director

kh
cc: Mr. James Sullivan
Marketplace Center Associates
Mrs. Eugenie Beal
MAPC Representative, Boston
Mr. Alfred Howard
Boston Redevelopment Authority
Mr. Mark Siegenthaler
MAPC Staff

A P P E N D I X IX

MAILING LIST FOR COPIES OF FINAL E.I.R.

Executive Office of Environmental Affairs
Leverett Saltonstall Building - 20th Floor
100 Cambridge Street
Boston, MA 02202

Attention: Ms. Sandra B. Uyterhoeven
MEPA Unit

Mass Bay Transportation Authority
50 High Street
Boston, MA 02110

Attention: Arline D. Sanford
Environmental Coordinator

Boston Gas Company
201 Rivermoor Street
Boston, MA 02132

Attention: Richard J. Hatch
Project Manager

New England Telephone
245 State Street
Room 410
Boston, MA 02109

Attention: Mario Fabiano

City of Boston
Public Works Department
Boston City Hall
One City Hall Square
Boston, MA 02201

Attention: Carmine Buono
Chief Engineer

Department of Environmental Quality Engineering
One Winter Street
Boston, MA 02108

Attention: Carl Dierke
Legal Division

Department of Environmental Quality Engineering
One Winter Street
Boston, MA 02108

Attention: Ms. Heidi O'Brien

Department of Environmental Quality Engineering
One Winter Street
Boston, MA 02108

Attention: Bill Slager
Division of Water Pollution Control

Department of Environmental Quality Engineering - Northeast
323 New Boston Street
Woburn, MA 01801

Attention: Mr. Maher

Massachusetts Historical Commission
294 Washington Street
Boston, MA 02108

Attention: Valerie Talmage

Metropolitan Area Planning Council
44 School Street
Boston, MA 02108

Conservation Commission
City of Boston
Boston City Hall
One City Hall Square
Boston, MA 02201

Boston Redevelopment Authority
Boston City Hall - 9th Floor
One City Hall Square
Boston, MA 02201

Attention: Paul McCann, Esquire

Metropolitan District Commission
20 Somerset Street
Boston, MA 02108

Attention: Gene Haggerty
Sewerage Division

Executive Office of Transportation and Construction
One Ashburton Place - Room 1610
Boston, MA 02108

Division of Air Quality Control
Source Planning Branch
One Winter Street
Boston, MA 02108

Department of Public Works
Environmental Section
100 Nashua Street
Boston, MA 02114

Attention: Frank Sholock

State Clearinghouse
One Ashburton Place
Boston, MA 02108

Coastal Zone Management
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02202

Attention: Mr. Delaney

Air Pollution Control Commission
Boston City Hall
One City Hall Square
Boston, MA 02201

Attention: Jeff Boehm

Boston Water & Sewer Commission
10 Post Office Square
Boston, MA 02109

Attention: Charles Button
Chief Engineer

Boston Traffic & Parking Department
Boston City Hall
One City Hall Square
Boston, MA 02201

Attention: Mr. Andy Quintilini

Boston Landmarks Commission
Boston City Hall
One City Hall Square
Boston, MA 02201

Attention: Marcia Myers
Executive Director

Boston Waterfront Neighborhood Association
c/o Norman Smith, Esquire
63 Atlantic Avenue
Boston, MA 02110

Jacqueline Patton
Boston Private Industry Council
15 Congress Street
Boston, MA 02109

Mr. Paul J. Kingston
One McKinley Square Condominium Association
One McKinley Square
Boston, MA 02109

Boston Edison Company
800 Boylston Street
Boston, MA 02199

Attention: Lawrence E. Tuck
Steam Division

Note:

For persons or groups not on the preceding mailing list which was supplied by the MEPA unit, copies of this E.I.R. will be available at cost from:

Marketplace Center Associates
189 State Street
Boston, MA 02109

Tel. 742-2280
Attn: Ms. Dawn Skerry

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